Prakrit Jaina Institute Research Publication Series Vol. 18

General Editor
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ECONOMIC LIFE IN ANCIENT INDIA
AS
DEPICTED IN JAIN CANONICAL LITERATURE

BY
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प्राकृत विद्यापीठ वैशाली

Research Institute of Prakrit, Jainology & Ahimsa,
Vaishali (Bihar)

1980

Price Rs. 23.00

Published on behalf of the Research Institute of Prakrit, Jainology & Ahimsa, Vaishali (BIHAR) by Dr. Nagendra Prasad, M. A., D. Litt., Director, Printed in India at the Ratna Printing Co., Varanasi.

The Govt. of Bihar established the Research Institute of Prakrit, Jainology and Ahimsa at Vaishali in 1955 with the object inter-alia to promote advanced study and research in Prakrit and Jainology, and to publish work of permanent value to scholars. This Institute is one of the six Research Institutes being run by the Govt. of Bihar. The other five are : (1) Mithila Institute of Post-Graduate Studies and Research in Sanskrit Learning at Darbhanga. (2) Kashi Prasad Jaysawal Research Institute for Research in Ancient, Medieval and Modern Indian History at Patna. (3) Bihar Rashtrabhasa Parishad for Research and Advanced Studies in Hindi at Patna. (4) Nava Nalanda Maha Vihar for Researh and Post-Graduate Studies in Buddhist Learning and Pāli at Nalanda and (5) Institute of Post-Graduate Studies and Research in Arabic and Persian Learning at Patna.

As part of this programme of rehabilitating and reorientating ancient learning and scholarship this is the research volume No. 18 which is a study on "Economic Life in Ancient India as Depicted in Jain Canonical Literature" by Dr. D. C. Jain. The Govt. of Bihar hopes to continue to sponsor such projects and trust that this humble service to the world of scholarship and learning would bear fruit in the fulness of time.

GENERAL EDITOR'S NOTE

Jain canonical literature is no doubt, one of the earliest and authentic sources of knowledge. It provides a gateway for the study of different aspects of life that was prevalent in ancient India. Economics is an integral part of commerce and as such, the author of this book, Dr. Dinendra Chandra Jain of Faculty of Commerce has studied the Economic Life in Ancient India as depicted in Jain canonical literature.

The present work amply shows that the author has worked with patience and insight and has presented the economic life of ancient India in an interesting and scholarly manner. I am fully convinced that the work has broken some new ground; and some orginal contribution has been made in the study of economic life in ancient India. The author deserves all praise and congratutations for presenting such a fine piece of research work to the world of scholars. I am sure, this will inspire other scholars to explore other facets of the Jain canonical literature.

In this work, Dr. Jain has studied and analysed the economic life of ancient India as depicted in Jain canonical literature. The objective of the study is to find out and to present the economic picture of the olden days—some 2500 years ago and to suggest the old good things for the modern complex society.

The book is divided in seven chapters of which the first one is given to introducing the subject. A brief account of the Jain canonical literature, its emergence, redaction, number, classification, language, period, subject matter, etc. are given which form the background of the study.

The second chapter deals with the Primary Industres of ancient India. All the primary industries, viz. Agriculture, Horticulture, Animal Breeding including Dairy Farming, Fishing, Forestry and Mining have been discussed in a scholarly manner under different heads. It is revealing to find that cultivation in ancient india was done on scientific lines and people knew the technique of agriculture.

The third chapter studies the Secondary Industries of ancient india in detail. It treats both cottage industries and industries under factory

system. Various industries e. g. Textiles, Iron & Steel, Sugar, Crafts based on non-ferrous metals, animal products, forest products, etc. have been covered in detail. It is interesting to find that the country was fairly industrialised at that time and it produced sufficient goods to cater to the needs of the people belonging to different strata of society. The author rightly suggests that the modern entrepreneurs of India should follow the example of ancient business magnets and open work-sheds for the rural weaker section.

The fourth chapter deals with trade—both inland and foreign. It studies the role of Sārthavāhas (leader of trade caravan), means of transport, ocean going vessels, land and sea routes, composition of inland and foreign trade, custom duties, important trade centres, etc. It is really wonderful to find courageous Sarthavāhas going out on the sea to far off countries like E. Africa and bring Zebras and precious stones from there on vessels driven by winds and man power facing all sorts of sea-hazards. The author has aptly said that they should be remembered as pioneers in the field of foreign trade who brought India in the limelight.

The fifth chapter is given to the study of Financial System of the olden days in which full care has been taken to examine all the three essential constituents—Banking, Currency and Public Finance. We find that the indigenous type of banking was prevalent in ancient India. Gold, silver and copper coins were minted in those days. Under the head Public Finance the different types of taxes of those days have been discussed elaborately. It discusses the sources of revenue of the Government and the heads of expenditure. The author writes that references about Public Finance of the time tell about the efficacy and efficiency of the financial administration of those days.

The sixth chapter is devoted to the study of Economic structure—Distributional Aspect. The chapter throws flood light on the distribution of wealth and income in the society and on concentration of economic power in ancient India. It has been found that while on the one side, there was opulence and affluence in the society, on the other, there was dearth and poverty among the masses. It is also seen that the economic power was concentrated in the hands of a few Seṭṭhis, merchants, Śreṇis and vaṇiyās. But it is redeeming to find that they did not use their position only for personal gains rather they took care for the good of the general people too. Some of them were great philanthropists and were guided by the idea of social welfare.

The concluding chapter (seventh) attempts to give some valuable suggestions which can improve the economic condition of our country.

The principle of 'Aparigrah' (non-possession) if followed today would change the approach of the people and they would not hanker after money. Modern society seeks the remedy of mental illness and dissatisfaction in accumulating more wealth whereas, according to the canonical texts, the solution lies in limiting the needs and foregoing surplus wealth. It is hightime that we take advantage of good points of both the periods—the modern technological one as well as the ancient as depicted in the canonical texts All these suggestions have made the study quite useful and purposive.

In the end I would like to thank M/S Ratna Printing Co., Varanasi for taking keen interest in printing the book in time.

Dr. Nagendra Prasad
Director,
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FOREWORD

Jaina Canonical and other Prakrit literature contain in them not only the religious and philosophical materials but also political, social and other cultural rich materials. Dr. J. C. Jain's "Life in Ancient India as Depicted in Jain Canons" was the first serious study which was published in 1947 A. D. Thereafter other such studies depending on individual works such as Niśitha Cūrṇi, Kuvalaya mālā, etc. are produced. And now we have Dr. D. C. Jain's Economic Life in Ancient India as Depicted in Jain Canonical literature for which we are grateful to the learned scholar as he has taken up the special study of economic life as depicted in the Jain Canonical literature.

Dr D. C. Jain is teaching Commerce in the college and it is good that with very good background of modern Economics he has taken up the study of Economics in Ancient India. So he has been able to distinguish between the early economic life and the modern progressive life.

He has very ably discussed and analysed the primary industries i. e. agriculture, forestry, fishing, mining, etc. and also secondary industries, trade, towns and cities, banking, currency and finance, distribution of wealth and income, concentration of economic power in ancient India. It can be said that nothing is left with regard to economic life in ancient India as far as the texts and the commentaries of the Jain Canonical literature is concerned. For this technical study by a scholar who is well acquainted with modern ideas the world of scholars will remain grateful to Dr. D. C. Jain.

About various problems of modern life the author has given good suggestions to be followed from the ancient life style.

We hope that the author will not end his research with this work but pursue his research on other phases of Jain literature which is not properly explored and which has rich materials on various subjects.

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PREFACE

The extant Jaina canonical literature (Jaina Āgamas) which is based on the discourses of Lord Mahāvīra, the twentyfourth Tīrthaṅkara, is a rich literature containing philosophy, ethics, religion, culture, history, geography, astronomy, cosmology, medical science, economics, trade, commerce, etc. of ancient India. The Jaina Sūtras throw immense light on the economic condition of the time. Its study is very interesting and revealing in as much as, we get a vivid picture of the economic life in ancient India some two and a half millennium ago.

In the present work I have studied and analysed 'The Economic Life in Ancient India as depicted in Jaina Canonical Literature'. The methodology followed is one of 'Content Analysis'. By studying the different Jaina Āgamas and their exegesis along with the modern literature on the subject, I have discussed and analysed the economic conditions prevaling at that time. The primary industries i. e. agriculture, horticulture, forestry, fishing, mining, etc., secondary industries, trade, towns and cities, banking, currency and finance, distribution of wealth and income, concentration of economic power in ancient India have been discussed and analysed in different chapters. The last chapter brings out the conclusions and gives some suggestions for the modern thinkers. The objective of the study is to find out and to present the picture of the old scene—a scene almost obscure—and to pin point if there was anything good for the modern society.

We find the Jaina Sūtras written in Ardha-Māgadhi Prākṛta, a language which is not commonly intelligible today. It is, however, gratifying that most of the Sūtras have been translated in Hindi, English and many other languages. By and large, I have made use of the translated work, but at the same time the original Prākṛta Sūtras and the commentary (Bhāṣya, Cūrṇi, etc.) on them have also been unsparingly consulted and used in this work.

The diacritical marks have been put on the Saṁskṛta and Prākṛta texts appearing in this work to present the work in a standard form. The system of transliteration adopted has been given in the following page. The abbreviations 'V' and 'S' in the Footnotes stand for 'Verse' and 'Sūtra' respectively. Niśītha Sūtraṁ, Uttarādhyayana Sūtraṁ, etc. referred in footnotes also cover their Cūrṇis, Bhāṣya, etc.

I visited renowned Jaina Research Institutes such as P.V. Research Institute, Varanasi, Research Institute of Prākṛta, Jainology and Ahiṁsā,

Vaisali, D. K. Jain Oriental Research Institute, Arrah, Ganesh Varṇī Saṁsthāna, Varanasi, etc. I express my gratitude to Dr. M. L. Mehta, Director, P. V. Research Institute, Varanasi, Dr. Nagendra Prasad, Director, Research Institute of Prākṛta, Jainology and Ahiṁsā, Vaisali, Dr. R. R. Jain, Hony. Director, D. K. Jain Oriental Research Institute, Arrah for providing free access to their research libraries and for making available the rare materials on this subject.

I am specially grateful to Dr. Raja Ram Jain, Reader and Head of the Department of Saṁskṛta and Prākṛta, H D. Jain College, Arrah who encouraged me to take up the study of this subject and who throughout helped me in finding the source materials and at times in bringing out the meaning of difficult and intricate Prākṛta texts.

I am very much indebted to Dr. N. C. Agrawal, Head of the Post-Graduate Department of Applied Economics and Commerce, and Dean, Faculty of Commerce, Magadh University, Bodh Gaya who has been a continual source of inspiration for this research work and who unsparingly guided me and gave valuable analytical suggestions.

I am very much obliged to Dr. N. L. Nadda, Vice-Chancellor, Ranchi University, Dr. C. D. Singh, University Prof & Head of the P. G. Studies and Research in Commerce, Bhagalpur University (formerly Vice-Chancellor of Magadh University) and to Dr. R. M. Das, Reader, P. G. Dept. of Sanskrit, Magadh Univ. Bodh Gaya for their useful suggestions and help.

I am also obliged to my colleagues, Sri K. B. Singh. Principal, Sri M. S. Johri, Head of the Department of Commerce, Dr. T. Lal and other friends of H. D Jain college Arrah who gave valuable suggestions from time to time.

I express my gratitude to Prof. D. D. Malvania of L. D. Institute of Indology, Ahmedabad who took the trouble of going through the manuscript in detail and write a FOREWORD for this book. I am also obliged to him for his valuable suggestions.

I also owe to the members of the Publi ation Committee (particularly to Dr. Nagendra Prasad, Director) of the Research Institute of Vaishali for the favour of publishing this work under their programme of Research Publications.

I feel proud in acknowledging the affectionate co-operation of Sri Narayan Chandra Chowdhary and his family members of Bhartendu Bhawan, Chowkhamba, Varanasi in the completion of this work during my stay at Varanasi.

My son Alok (M. Sc. Prev.), his friends Sushil (M. Com. Prev.) and Salil (B. Sc.) and my B. Com. (Hons.) students Amal, Feroz, Pratap. Viveka and Ramesh have done much of the arduous task of preparing the Index which otherwise would have engaged much of my time. I wish all of them succes in life.

I shall be failing in my duty if I forget to thank my wife, Pramila for the unflinching support and encouragement she provided to me from beginning to the end of the project.

Jan. 26, 1980
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Dinendra Chandra Jain

SYSTEM OF TRANSLITERATION ADOPTED

Vowels

अ	आ	इ	ई	उ	ऊ	ऋ
a	ā	i	ī	u	ū	ṛ
ऌ	ए	ऐ	ओ	औ	अं(ँ)	अः
ḷ	e	ai	o	au	ṁ	ḥ

Consonants

क	ख	ग	घ	ङ
ka	kha	ga	gha	ṅa
च	छ	ज	झ	ञ
ca	cha	ja	jha	ña
ट	ठ	ड	ढ	ण
ṭa	ṭha	ḍa	ḍha	ṇa
त	थ	द	ध	न
ta	tha	da	dha	na
प	फ	ब	भ	म
pa	pha	ba	bha	ma
य	र	ल	व	श
ya	ra	la	va	śa
	ष	स	ह	
	ṣa	sa	ha	
	क्ष	त्र	ज्ञ	
	kṣa	tra	jña	

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CHAPTFR IV : TRADE

CHAPTER V : THE FINANCIAL SYSTEM—BANKING, CURRENCY AND FINANCE

CHAPTER I

INTRODUCTION

The Jaina Canonical Literature : Origin

The canonical literature of the Jainas grew and developed through centuries and in stages. It did not belong to a particular period or originate at a particular point of time[1]. According to traditions preserved in the Jaina scriptures, Jaina religion is eternal. The eternity has been supported by giving a detailed classification of age (Kāla).

Division of Age (Kāla) according to Jaina Philosophy

Different religions claiming eternity have given different divisions of 'Age'. In Hindu philosophy, for example, we find different yugas, viz. Satyayuga, Tretā, Dvāpara and Kaliyuga, which appear in a cycle after a fixed period of time. In Jaina philosophy the whole span of time is divided into two equal cycles, the ascending one—'Utsarpiṇī Kala' and the descending one—'Avasarpiṇī Kāla'[2]. Each of these Kalas is sub divided into six parts, known as 'Ārās'. The six divisions of Avasarpiṇi' are said to be Suṣamā-Susamā, Susamā, Susamā-Duḥsamā, Duḥsamā-Susamā, Duḥsamā and Duḥsamā-Duḥṣama[3]. The reverse order operates in 'Utsarpiṇi' with similar six divisions, viz. Duḥṣamā-Duḥsamā, Duhsamā, Duhṣamā-Susama, Suṣama-Duḥṣamā, Suṣamā and Susamā-Suṣamā. Each cycle extends over ten 'koṭā-koṭi sāgaropama' years which comes to unreckonable number of years.[4]

Appearance of Tīrthaṅkaras

In each cycle twentyfour Tirthaṅkaras appear at certain intervals to preach the gospel of human behaviour to the people. The Tīrthankaras appear only in the third and fourth parts of the cycle, i. e. in Suṣamā-Duhṣamā and Duḥṣamā-Susamā.[5] There is no need of Tirthankaras in Suṣamā-Suṣamā and Suṣamā kāla as people themselves lead a pious life full of austerity. Against this in Duḥsama-Duḥṣama and Duḥsamā period, Tīrthankaras do not appear because of bad effects of time. According to the scriptures the present age is the 5th āra of

1. *Cf.*, Law, B. C., *Some Jain Canonical Sutras*, p. 1.
2. *Cf.*, *Sthānāṅga Sūtram*, Vol. I, Chap. II, S. 37, p. 469.
3. *Cf*, *Ibid.*, Vol. I., Chap. II., S. 33, pp. 425-427.
4. *Cf.*, *Ibid.*, Vol. I., Chap. II, S. 38, p. 479.
5. *Cf.*, *Upāsakadasāṅga Sūtram*, p. 398.

Avasarpiṇī Kāla, i. e., Duḥṣamā. Its period has been reckoned as 21,000 years.[1] It commenced sometime after Mahāvīra, the 24th Tīrthaṅkara, attained salvation.

The Twentyfour Tīrthaṅkaras

According to the Jaina traditions there are twentyfour Tīrthaṅkaras in each cycle of time. Their names are :

(1) Ṛṣabha, (2) Ajita, (3) Sambhava, (4) Abhinandana, (5) Sumati, (6) Padmaprabha, (7) Supārśva, (8) Candraprabha, (9) Puṣpadanta or Suvidhi, (10) Śītala, (11) Śreyāmsa, (12) Vāsupūjya, (13) Vimala, (14) Ananta, (15) Dharma, (16) Śānti, (17) Kunthu, (18) Araha, (19) Malli, (20) Munisuvrata, (21) Nami, (22) Nemi, (23) Pārśva and (24) Vardhamāna or Mahāvīra[2].

Ṛsabhadeo or Ādinātha was the first Tīrthaṅkara. He was born in the Ikṣvaku family of Ayodhyā in the 3rd Ārā. He was born in an age which was primitive and devoid of any social institution. It was he who taught people the art of cultivation, weaving, writing, painting, litting of fire, cooking, etc. He educated the people to perform ceremonies of birth, marriage, death, etc. The economic system that emerged during his period was an economic system of self-sufficiency. He was, thus, a pioneer in the field of institutionalising social and economic behaviour.

Subsequent Tīrthaṅkaras appeared after certain intervals of years In the beginning the interval was very great, say crores and crores of years. Successively the interval lessened. It is said that the interval between the 18th Tīrthaṅkara, Araha and 19th Tīrthaṅkara, Malli was one crore years and between the 19th and 20th Tīrthaṅkara (Munisuvrata), it was 65 lac years. The next interval between Munisuvrata

1. *Cf.*, *Sthānaṅga Sūtram*, Vol. I, Chap. II, S. 33, p. 431 According to commentary on Sūtras, the period of different 'aras' of the 'kāla' (age) is given as follows :—

Name of 'ārās'	Avasarpiṇī	Utasarpiṇī	Period of time in each cycle
1. Suṣama-Suṣamā	1st ārā	6th ārā	4 kotā-koti sāgaropama
2. Suṣamā	2nd „	5th „	3 „ „
3. Suṣamā-Duḥṣamā	3rd „	4th „	2 „ „
4. Duḥṣamā-Suṣamā	4th „	3rd „	1 „ „ minus 42,000 years.
5. Duḥṣamā	5th „ (present age)	2nd „	21,000 years
6. Duḥṣamā-Duḥṣamā	6th ārā	1st „	21,000 years
		Total	10 kotā-koti sāgaropama

2. *Cf.*, *Nandī Sūtram* S. 20-21, p. 8.

and Nami was 11 lac years, between Nami and Nemi—the 22nd Tīrthaṅkara 5 lac years, between Nami and Pārśvanātha—the 23rd Tīrthaṅkara 83,750 years and that between Pārśva and Mahāvīra, the last Tīrthaṅkara was 250 years only[1].

Historical Support

The history of Jainism before Lord Mahāvīra is shrouded in obscurity. Hermann Jacobi tried to prove from different records that Pārśvanātha, the 23rd Tīrthaṅkara is a historical figure[2]. Thus Pārśva (877-777 B. C.) was the first historical Tīrthaṅkara. Many scholars are of the opinion that 'Śramaṇa' culture (Jainism) existed even in pre-vedic times.[3] There is difference of opinion between different scholars, but one fact seems to be certain that Śramaṇa culture existed even before Lord Mahāvīra (599-527 B. C.).

Emergence of Canonical Literature

The Jaina canonical literature is based on the discourses given by Tīrthankaras from time to time on religion, philosophy, ethics and social norms, which were listened to by their disciples, called Gaṇadharas. The Gaṇadharas understood the meaning and connotations of the speeches of their Master and presented the matter in the form of Sūtras Thus, the Canonical literature is the outcome of the Tīrthankaras' discourses and their subsequent renderings in Suttas (Sūtras) by their disciples—the Gaṇadharas.

In ancient India, knowledge was transmitted orally from generation to generation. The knowledge so acquired was Śruta-Jñana and this Śruta tradition continued for a pretty long time. In Jainism, knowledge (Nāṇa or Jñāna) has been divided into five kinds.[4] Śruta Jñāna is one of them. It first took the form of oral transmission. Later on this knowledge was written and is called Śruta Jñana even to-day.

The Jaina texts trace back the origin of the Āgamas (Canonical literature) to the time of the first Tīrthankara, Lord Ṛṣabhadeva. It is

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1. *Cf.*, Jain, K. C., *Lord Mahāvīra and His Times*, p. 2.
2. Jacobi, Hermann, *Sacred Books of the East*, Vol. XLV, p. 21.
3. *Cf.*, Radhakrishnan, S., *Indian Philosophy*, Vol. I, p. 287.
4. *Nandī Sūtram*, S. 1, p. 25.

   Nāṇaṁ pañcavihaṁ paṇṇatam, tañjahā-ābhiṇi-bohiya-nāṇaṁ, suya-nāṇaṁ, ohi-nāṇaṁ, maṇa-pajjava-nāṇam, kevala-nāṇaṁ, (i.e. 1. Ābhinibodhiya Jñāna or Mati Jñāna, 2. Śruta Jñāna, 3. Avadhi Jñāna, 4. Manaḥparyaya Jñāna and 5. Kevala Jñāna).

stated that Arhats (Tīrthaṅkaras) are invariably 'Pravacani' with a number of disciples with them and as such a lot of literature (Āgama Sāhitya) must have emerged. The oldest part of the canon is represented by the fourteen 'Pūrvas'[1] or the former scriptures. These earlier compositions were called 'Pūvvas' (Pūrvas) evidently because they existed prior to Angas, the present canonical literature.[2] For some time only ten 'Pūrvas' were known and then the remaining 'Pūvvas' were also gradually lost. It does not. however, mean that all the fourteen 'Paūvvas' were simultaneously lost or forgotten, but that their knowledge gradually dwindled so that by Vīra Saṁvat 1000 (473 A.D.) the Pūrvas (Pūvva-gaya) became extinct.[3]

According to some scholars the contents of the Pūrvas were incorporated in the present Āgama Sāhitya. According to one school of thought the twelfth Anga, 'Diṭṭhivāya' (Dṛṣṭivāda) contained most of the parts of Pūvvas. Unfortunately Dṛṣṭivāda was lost and with it, an important part of canonical literature is considered lost. It was lost as its major portion, 'Pūrva-jñāna' was extremely difficult to be remembered and studied in view of its gamas and bhangas, the latter requiring a great deal of mathematical ability to grasp them.[4] According to the other school of thought the 'Ṣaṭkhaṇḍāgama' of Puspadanta and Bhūtabali is an important canonical book of Digambaras and a later representation of the 'Dṛṣṭivāda' which contained the original fourteen 'Pūrvas'.[5]

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1. *Ibid.*, S. 56, pp. 147-148.

Name of Pūrvas—(*Saṁskṛta*)	*Pūvvas* (*Prākṛta*)
1. Utpāda-pūrva	Uppāya puvvaṁ
2. Agrāyaṇīya-pūrva	Aggāṇiyam
3. Vīryaṇu-pravada-pūrva	Vīriyaṁ
4. Astināsti-pravāda-pūrva	Atthi-natthippavāyaṁ
5 Jñana-pravāda pūrva	Nāṇappavāyaṁ
6. Satya-pravada-pūrva	Saccappavāyaṁ
7. Atma-pravāda-pūrva	Āyappavāyaṁ
8. Karma-pravāda-pūrva	Kammappavāyaṁ
9. Pratyākhyāna-pravāda-pūrva	Paṁcakkhāṇappavāyaṁ
10. Vidyāṇu-pravāda-pūrva	Vijjāṇuppavāyam
11. Abandhya-pūrva	Abamjham
12. Prāṇāyuh-pravāda-pūrva	Paṇaū
13. Kriyā-viśāla-pūrva	Kiriyāvisāla
14. Lokabindusāra-pūrva	Lokabiṁdusāraṁ

2. *Cf.*, Jain, K. C., *op. cit.*, p. 14.
3. *Cf.*, Kapadia, H. R , *A History of the Canonical Literature of the Jainas*, p. 75.
4. *Ibid.*, p. 77
5. Jain, H. L., *The Ṣaṭkhaṇḍāgama*, Vol. II, Introduction, p. (iv).

Composition of Extant Āgamas

The extant Jaina canonical literature is based on the discourses of the 24th Tīrthaṅkara, Lord Mahāvīra. He was a contemporary of Lord Buddha and is described as a supreme personality and a great preacher, omniscient having supreme knowledge and vision. He had a number of disciples and followers for whom he stood as a living example of the highest human virtue and perfection. He had eleven main disciples who are known as 'Gaṇadharas.[1] Indrabhūti or Gautama Gaṇadhara was the first and occupied the highest position because of his distinguished knowledge, scholarship and capabilities. It was mainly Goyama (Gautama) Gaṇadhara who gave the Sūtra form to the discourses of Lord Mahāvīra. Sudharmā Svāmī was another eminent Gaṇadhara to whom credit can be given for compiling a number of Sūtras. Thus, Lord Mahāvīra propounded the knowledge by meaningful expressions and the Gaṇadharas rendered them in Sūtra form. In this sense the Gaṇadharas have been called the composers of Āgama Sāhitya.

Redaction of Āgamas

In the beginning these Āgamas were not written but for several centuries, as was customary in ancient days, the knowledge was transmitted orally. With the march of time, this knowledge could not be preserved. Famines appeared in the country from time to time which badly hit this process of transmission of knowledge In order to collect and preserve the Āgamas which were in the process of decay because of the oral tradition, three Councils were held from time to time. A brief description of these councils is given below :—

(*a*) *Pāṭaliputra Council* (about 367 B. C.)

A terrible famine appeared in Magadha in the reign of Candragupta Maurya in the middle of the fourth century B. C. (after about 150 years of the Nirvāṇa of Lord Mahāvīra)[2]. The Sādhus and Ācāryas were compelled to go to remote places to save themselves from starvation. Many of them lost their precious lives for want of food and water. With them, the knowledge of Āgamas was destroyed or was scattered here and there.

After the famine was over a council of Jaina Ācāryas and saints was held at Pāṭaliputra to collect the Āgamas[3] Deliberations were held

1. *Nandī Sūtram*, S. 22-23, pp. 8-9.
2. *Cf.*, Jain, Jagadīśa Candra, *Jaina Āgama Sāhitya Me Bhāratiya Samāja*, p. 29.
3. *Cf.*, Vijaya Muni and Muni Samadarśi, *Āgama Aura Vyākhyā Sāhitya*, p. 13.

among the Ācāryas and all the canons except the Dṛṣṭivāda were collected. This is known as 'Pāṭaliputra Vācanā' in Jaina Granthas. No body remembered the Dṛṣṭivāda (the 12th Aṅga) Efforts were made to collect it, but it did not fully succeed. Thus, the knowledge contained in Dṛṣṭivada (incorporating Pūrvas) gradually disappeared from this time.

(b) Mathnrā Council (303 A D.)

With the lapse of time there again appeared a severe famine. The canonical literature again went into disorder and hence a second council was held at Mathurā between 300-313 A. D. under the leadership of Acārya Skandila.[1] It was another attempt to bring together the Āgamas which were scattered and were in the process of being lost. During the same period Nāgārjuna Sūri organised a Śramaṇa Saṅgha in Vallabhinagara (Saurastra).[2] Unfortunately the compiled version of one did not fully tally with that of the other.

(c) Vallabhi Council (454 A. D.)

After one and a half century of the Mathurā Council another Śramaṇa Sangha was organised under the leadership of Devarddhi Gaṇi Kṣmāśramaṇa. In this Council the different versions were discussed and reconciled as far as possible and given a definite shape. In this council the canons were written down according to versions of Mathurā council. The important variant of Nagārjuna Vacanā were mentioned in the commentaries.[3] All the important Jaina canons were written down in book form. This event is technically known as 'Pustakārohaṇa of the Jaina Āgamas' or Redaction of the Jaina canons.[4] This redaction of the canon has been a momentous event in the Jaina annals. Thus, the Vallabhi council was a landmark in the history of Jaina canonical literature as it determined the definite and final shape of Jaina Āgamas in book form.[5]

The Āgamas—Number and Classification

Opinions regarding the number of Āgamas vary. According to one tradition the number of Jaina canons is 84.[6] It is only 32 according to Sthānakavasi sect.[7] But according to the general consensus, there

1. *Cf.*, *Ibid.*, p. 14.
2. *Idem.*
3. *Idem.*
4. *Cf.*, Kapadia, H. R., *op. cit.*, p. 63.
5. *Cf.*, Jacobi, H., *op. cit.*, Vol. XXII, p. xxxvii.
6. *Cf.*, Vijaya Muni and Muni Samadarśi, *op. cit.*, p. 26.
7. *Ibid.*, p. 25.

are 46 Āgamas classified as 12 Aṅgas, 12 Upāṅgas, 10 Prakirṇakas, 6 Cheda Sūtras, 4 Mūla Sūtras and 2 Cūlikā Sūtras. Out of the 12 Aṅgas, the twelfth one i. e. Dṛṣṭivāda could not be recollected at the Councils and as such is considered lost The 46 canonical texts, out of which 45 are available, variously known as Āgamas, Siddhānta, Śruta, etc. are as follows :—[1]

A. Twelve Aṅgas

Saṁskṛta names	*Prākṛta names*
1. Ācārāṅga	Āyārāṁga
2. Sūtrakṛtāṅga	Sūyagadāṁga
3. Sthānāṅga	Ṭhānāṁga
4. Samavāyāṅga	Samavāyāṁga
5. Bhagavati or Vyākhyāprajñapti	Viāhapaṇṇatti
6. Jñātādharma Kathānga	Nāyā-dhammakahāo
7. Upāsakadaśāṅga	Uvāsagadasāo
8. Antakṛddaśāṅga	Antagaḍa dasāo
9. Anuttaraupapātikadaśāṅga	Annutarovavāiya dasāo
10. Praśna Vyākaraṇa	Paṇha Vāgaraṇa
11. Vipāka Sūtra	Vivāga Suya
12. Dṛtsṭivāda	Diṭṭhivāya

B. Twelve Upaṅgas

1. Aupapatika	Uvavāiya or Ovāiya
2. Rājapraśniya	Rāyapaseṇaiya
3. Jivājivābhigama or Jivābhigama	Jivājivābhigama
4. Prajñāpanā	Paṇṇavaṇā
5. Sūrya-prajñapti	Sūriya paṇṇatti
6. Jambūdvipa-prajñapti	Jambūdvipa-prajñapti
7. Candra-prajñapti	Canda paṇṇtti
8. Niryāvalikā	Niryāvaliāo
9. Kalpavataṁsikā	Kappavaḍamsiāo
10. Puṣpikā	Pupphiāo
11. Puṣpa cūlikā	Puppha cūliāo
12. Vṛṣni daśā	Vaṇhi dasāo

C. Ten Prakīrṇakas (Painnās)

1. Catuḥśaraṇa	Causaraṇa
2. Ātura pratyākhyāna	Āurapaccakkhāṇa
3. Mahāpratyākhyāna	Mahāpaccakkhāṇa
4. Bhaktaparijñā	Bhattapariṇṇā

1. *Cf.*, Law, B. C., *op. cit.*, p. 4.

5.	Tandula Vaicārika	Taṁdula veyāliya
6.	Saṁstāraka	Santhāraga
7.	Gaṇi vidyā	Gaṇi vijjā
8.	Devendrastava	Devindatthava
9.	Candra vedhyaka	Canda vijjhāya
10.	Vīrastava	Vīratthava

D. Six Cheda Sūtras (Cheya Sūtta)

1.	Niśītha	Nisīha
2.	Mahā Niśītha	Mahā Nisīha
3.	Vyavahāra	Vavahāra
4.	Daśaśrutaskandha or Ācāradaśā	Dasāsuyakkhanḍa or Āyāradasāo
5.	Kalpa or Bṛhatkalpa	Kappa
6.	Pañca kalpa or Jītakalpa	Paṁca kappa

E. Four Mūla Sūtras (Mūla Sūttas)

1.	Uttarādhyayana	Uttarājjhayaṇa
2.	Daśavaikālika	Dasaveyāliya
3.	Āvaśyaka	Āvassaya
4.	Piṇḍa Niryukti or Ogha Niryukti	Piṁḍa Nijjutti or Oha Nijjutti

F. Two Cūlikā Sūtra

1.	Nandi	Naṁdi
2.	Anuyogadvāra	Anuogadāra

The 46 Āgamas have been broadly classified into two groups :—[1]

A Aṅga-praviṣṭa i. e. comprising the Aṅgas

B Aṅga-bāhya i. e. other than Aṅgas.

The Aṅgapraviṣṭa canonical literature containing the 12 Aṅgas is held to be that propounded by the Tīrthaṅkaras themselves and composed in Sūtra form by their disciples (the Gaṇadharas). Thus, only the 12 Aṅgas existed at the time of Lord Mahāvīra.

The Aṅgabāhya literature was composed by the Gaṇadharas and Ācāryas after the Nirvāṇa of Lord Mahāvīra and included Upāṅgas, Prakirṇakas, Mūla sūtras, Cheda Sūtras, Cūlikā, etc. as enumerated above.

Exegeses of the Canons

Besides the fortyfive Āgamas available today, which comprise the Jaina canonical literature, there is a vast exegetical literature, inter-

1. Vijaya Muni and Muni Samadarśī, *op. cit.*, p. 22.

preting the canons. This commentarial literature on Āgama Sāhitya is very rich, trustworthy and prove the authenticity of the canonical literature. Besides elaborating the philosophy, ethics, and canons of the Āgama Sāhitya, it presents a vivid description of the social, political and economic life of the people.

The exegetical literature can be divided into four parts :—

(a) Niryukti (Nijjutti)
(b) Bhāsya (Bhāsa)
(c) Cūrṇi (cuṇṇi)
(d) Tīkā

(*a*) *Niryukti*

These are the oldest explanatory literature supported by tales elucidating the philosophy and morals contained in the Jaina Sūtras. These are written in verse form. There are ten important Niryuktis e. g. Ācārāṅga Niryukti, Āvaśayaka Niryukti, Vyavahāra Niryukti, Bṛhatkalpa Niryukti, etc. Bhadrabāhu is said to be the author of these Niryuktis.

(*b*) *Bhāṣya*

Next came the Bhāsya form of commentary on the Jaina Sūtras which are also written in verse form. They provide valuable information regarding the social and economic life of the early days. Eleven Āgamas (other than Aṅga literature) have their Bhāsya literature. Some of the important Bhāsyas are Bṛhatkalpa Bhāsya, Vyavahara Bhāsya, Niśītha Bhāsya and Piṇḍa Niryukti Bhaṣya.

(*c*) *Cūrṇis*

These are the third kind of commentary and explanatory notes on the Āgamas. These are written in prose style. Among the available Cūrṇis, the Niśitha Cūrṇi, Avaśyaka Cūrṇi and Daśavaikālika Cūrṇi give rich information on the history, culture and economy of the people.

(*d*) *Tīkā*

A large number of Tīkās (commentaries) elucidating the Jaina canons have been written on the Jaina Āgamas. Haribhadra Sūri (705-775 A. D.), a distinguished writer, wrote many commentaries in Saṁskṛta.[1]

Besides exegetical literature, there are Purāṇas (mythological books) which depict the life and teachings of the Tīrthaṅkaras throwing light on the social and economic condition of the people.

Language of the Āgamas

The Āgamas were originally written in Ardha-Māgadhi Prākṛta. The language spoken in the Magadha region at the time of Lord Mahā-

1. Vijaya Muni and Muni Samadarśī, *op. cit.*, pp. 82-83.

vira was called Ardha-Māgadhi as it was a mixed language containing Māgadhi and Sauraseni-Prākṛta. Lord Mahāvira gave his discourses in Ardha-Māgadhi which was the language of the common people in those days. There is mention of the use of Ardha-Māgadhi language in many Jaina Āgamas.[1]

The original Āgamas have since been commented and translated into Saṁskṛta, Hindi, English and many other languages The German scholar, Hermann Jacobi, translated some of the Sūtras into English which were published in the famous series, 'Sacred Books of the East'. The Āgamas translated by him are Ācāranga and Kalpa Sūtra in Vol. XXII and Uttarādhyayana and Sūtrakṛtanga in Vol. XLV.

Period of the Āgamas

As discussed earlier the present canonical literature is based on the preachings of the Tirthankaras. The last in the series of the Tirthaṅkaras was Lord Mahāvira. His disciples (Ganadharas) presented the preachings in Sūtra form. This process continued till the third Council (Vallabhi) which was held in 453 A. D. and which gave a final shape to the available canonical literature. Hence, roughly, the Agamas can be said to have been composed between 6th century B. C. and 5th century A. D.

Subject-matter of the Āgamas

Though most of the Āgamas primarily deal with religion, ethics, philosophy, code of conduct both for the ascetics and the common people, we also find a lot of materials pertaining to history, culture, astronomy, cosmology, mathematics, economics, trade and commerce of ancient India in these Āgamas. Jaina philosophy has been dealt with in Ācārānga, Sūtrakṛtānga, Sthānānga and many other Agamas. Astronomy from Jaina standpoint has been nicely dealt with in Surya Prajñapti and Candra Prajñapti. An interesting study of geography is found in Jambūdvipa Prajñapti. The Gani Vijja (Gaṇi Vidyā) deals with astrology. An interesting account of the social and economic life of ancient India is found in Bhagavati Sūtram, Jñātādharmakathaṅga Sūtram, Upāsakadasānga Sūtram, Niśitha Sūtram, etc. Other Agamas and their exegeses mainly dealing with religion, ethics, philosophy, etc. also throw a good deal of light on the economic life in ancient India. We shall now discuss the economic conditions in that time on the basis of references made in various Jaina canonical texts. The topics on economic conditions proposed to be studied are industries—primary and secondary, trade activities, banking, currency and finance, distribution of wealth and income and concentration of economic power.

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1. *Samavāyāṅga Sūtra*, p. 60, Bhagavaṁ ca ṇam Addha-Māgadhae bhāsāe dhammamāikhai (Lord Mahāvira preaches in Ardha-Māgadhi).

CHAPTER II

PRIMARY INDUSTRIES

Meaning

Man, from a very early age, has been making a conscious and determined effort to utilise the bounties of nature for his benefit. The primary need of man is food, clothing and shelter. Man had to look to nature to procure his prime needs. Nature provided certain things; man simply exploited them. He could raise plants from the soil and procure foodgrains, fibres, fruits and beverages. Thus, gradually, the art of agriculture grew. Man went to the rivers and sea coast to net fishes. For wood and timber, the forests had to be exploited. Mines were dug and different mineral products were extracted. Animal breeding was started and dairy farming came into existence with products like milk, butter, ghee, etc.

Thus, man, from ancient days till now, has been looking to Nature for commodities of his use. The activities of man, concerned with producing certain articles primarily with the help of nature, relate to Primary industries. It may be distinguished from Secondary industries, e. g , Iron and Steel industry, Cotton mill industry, Sugar industry, etc., where man's role (labour, capital and organisation) is predominant.

Classification

Primary industries may be broadly classified as under :—

1. Agriculture,
2. Horticulture—fruits, vegetables and flowers,
3. Animal breeding including dairy farming,
4. Pisciculture (fishing),
5. Forestry,
6. Mining.

1. Agriculture

Agriculture is an art of growing plants from the soil for the benefit of mankind. The economic structure of the society as depicted in Jaina canonical literature was chiefly based on agriculture. Agriculture was the mainstay of a large section of people. 'Phoḍikamma' has been used in the texts to denote the act of digging the land, ploughing and spading.[1] The holy teachings of Lord Mahāvīra disapprove fifteen occupations[2] for

1. *Upāsakadaśāṅga Sūtram*, Chap. I, S. 47, p. 66.
2. *Idem.*

pious persons (Śrāvakas) as many living creatures are killed in pursuing these occupations. The fifteen occupations include Phoḍīkamma and these are as follows :—

(i) Imgāla-kamma or Aṅgārakarma—making of charcoal and bricks using firewood.

(ii) Vaṇakamma—cutting of wood from the forests and bringing other forest products.

(iii) Sāḍi-kamma or Sakaṭakarma—making and selling of carts, chariots, etc.

(iv) Bhāḍi-kamma or Bhātikarma—transport business, giving cattle, horses, etc. on hire.

(v) Phoḍī-kamma or Sphoṭakarma—digging the land, quarry, mining, etc.

(vi) Daṁta vāṇijja—ivory business.

(vii) Lakkha vāṇijja—trading in lac.

(viii) Rasa vāṇijja—dealing in wines.

(ix) Visa Vāṇijja—dealing in poisons, arms and ammunitions e. g guns, swords, arrows, etc.

(x) Keśa Vāṇijja—trading in hairs and furs.

(xi) Jaṁtapilanakamma—pressing of oilseeds, sugarcane crushing, etc.

(xii) Nillamchaṇa-kamma—castration of bulls.

(xiii) Davaggi dāvanayā or Dāvāgni dāpana—setting forest on fire.

(xiv) Sara-daha-talāya sosaṇayā—drying up of ponds and lakes for obtaining salt, shell, etc.

(xv) Asaī Jaṇaposaṇayā—trafficking in women, running of brothel.

It seems that Phoḍikamma in the above fifteen occupations have been used in the strict sense meaning digging the land, quarry, mining, etc. In wider sense in meant agricultural operations like ploughing and spading which was allowed for the Śrāvakas also. The various texts depict that agriculture was the principal occupation of the rural people. Those following the profession of agriculture were, however, considered Āryans and not Mlecchas. There were rich peasants also who could engage labourers to work on their farms.[1]

1. *Cf.*, *Niśītha Sūtram*, Vol III, p. 519.

Besides the different types of agricultural occupations, there is reference of villages, land system, agricultural operations, crops grown, etc. in different canonical texts.

Description of Village

The centre of agro-economy was the village inhabited by a large number of families. There is mention of villages consisting of ten thousand families (dasakula sāhassieṇam gāmeṇaṁ).[1] The number seems to be exaggerated, nevertheless, it depicts that villages were big in size having a large population. It had a vast area having cultivable land, pasture, forests, groves, gardens, tanks, cattlesheds, etc. Cattle constituted an important part of the household property. There is mention of a rich and affluent person (Gāthāpati) Ānanda in Upāsakadaśāṅga, who had a large number of cattle.[2] Such a description shows that not only the people were aware of the need of a self sufficient agricultural economy, but had also the knowledge of ecology. They knew the importance of forests, groves, pasturelands, tank, cattle, etc. in the agricultural economy and strived to strike a balance between them.

Kinds of villages

Different types of villages have been mentioned in the canonical literature. There were big as well as small villages. The 'Gāma' was an ordinary village, whereas 'Gamaka' was a smaller one. The 'Nigama' was probably a busy market village which was different from agricultural village. The 'Dvāragāmas' were situated on the outskirts of the cities and most of them were industrial villages.[3]

On the basis of occupation the villages can be broadly classified into two types :—

1. Agricultural villages and
2. Industrial villages.

Cultivation of crops was the main occupation of the people in agricultural villages. The fields known as 'Khetta' were situated not very far from the dwelling houses of the cultivators.[4] In the industrial villages there was predominance of various kinds of trade and crafts. The Upāsakadaśāṅga mentions a village situated inside the town of Polāsapura having 500 pottery workshops where different varieties of

1. *Cf.*, *Vyākhyā Prajñapti*, Part. XI, Chap. XI, S. 430, p. 1003.
2. *Cf.*, *Upāsakadaśāṅga Sūtram*, Chap. I, S. 4, p. 9.
3. *Cf.*, Jain, K. C., *op. cit.*, p. 278.
4. *Cf.*, Sen, Madhu, *A Cultural Study of Niśītha Cūrṇi*, p. 193.

earthen pots were made.[1] This indicates that there were some villages which had specialised in different crafts. There are several other instances of villages which were inhabited by persons specialising in a particular craft or trade, e. g., villages of carpenters, blacksmiths, goldsmiths, etc. Jñātādharmakathāṅga tells us of a locality known as Corapalli inhabited by thieves and robbers only.[2]

An important feature of some of the villages was that they were named after professions followed by certain castes. The villages like Brāhmaṇa grāma, Kṣatriya grāma, Baniyā grāma, Cāṇḍāla grāma were respectively inhabited by, mainly the Brāhmaṇas, Kṣatriyas, Vaiśyas and the Śūdras.[3]

The description of the kinds of villages is not only interesting but also revealing. The people seemed to be well aware of a balanced economy and in this context they not only relied upon agriculture, but also developed industries and trade. The mention of Nigama and Dvāragāmas is a testimony of not only the development of industries and trade, but the level of the development of industry and trade. The dvāragāmas were just like industrial estates developed on the outskirts of cities. Thus, they not only supplied the manufactured products to the people of the cities, but supported agriculture as well. The industries being located outside the cities kept the cities clean. This shows a high degree of development and the complementary nature of agriculture and industry.

Land System : Land Ownership

The texts do not mention clearly about the ownership of the land, but private possession of wealth and property by the individuals (Gāthāpatis, Vaiśyas, Sārthavahas) indicates that the land possessed by the householders were under their full ownership having some sort of permanent right over them. As such the land could be sold or purchased freely by the people.

The State realised taxes on the holdings through its revenue officials. Land tax was remitted or reduced at the pleasure of the king. One such example is the declaration of royal amnesty on the occasion of the birth ceremony of a newly born prince.[4]

Thus the system of land tenure was one of peasant proprietorship, the State having full power regarding realisation of taxes. The views of

1. *Cf.*, *Upasakadaśaṅga Sūtram*, Chap. VII, S. 181, p. 271.
2. *Cf.*, *Jñātādharmakathāṅga Sūtram*, Vol. III, Chap. XVIII, S. 3, p. 650.
3. *Cf.*, Jain, K. C., *op. cit.*, p. 278.
4. *Cf.*, Sikdar, J. C., *Studies in Bhagavati Sutra*, p. 271.

certain authors regarding State ownership of the land cannot be ruled out as the king was supreme and all land belonged to him. He could donate land to persons according to his pleasure. But the fact was that most of the villagers were free peasants and their land was, to all intents and purposes, their own, though the king claimed its ultimate ownership.[1] The system of land tenureship indicates that there was no impediment on production or productive activities of the people.

Cultivable Land

The cultivable land or fields were known as 'Khetta' which lay around the villages (gāma). The agricultural land (Khetta) was one of the ten material possessions of man. According to Bṛhatkalpa[2] the ten external possessions are :—

(i) Khetta (land), (ii) Vāstu (buildings), (iii) Dhana (gold and silver), (iv) Dhānya (foodgrains), (v) Sañcaya (collection of articles), (vi) Mitra (friends and relatives), (vii) Vāhana (conveyance), (viii) Sayana-Āsana (furniture), (ix) Dāsa-Dāsi (slaves) and (x) Kupya (utensils).

The agricultural land was considered as the most important material possession. Such land was of two types. The first was 'Setu' i. e. land requiring irrigation and the second was 'Ketu' which got the required water through rainfall[3]. The mention of the word 'Setu' is significant. It means that the system of irrigation was prevalent at that time as well. This also tells about the developed nature of agriculture.

Agricultural Operations

The canonical texts make references regarding agricultural operations which consisted of the following :—

(i) Ploughing and fencing of the fields,
(ii) Sowing the seeds and pulling up the weeds,
(iii) Irrigating the land when required,
(iv) Reaping the harvest, and
(v) Storing the grains.

(i) Ploughing

A regular process was followed in the field of cultivation. First of all the land was ploughed with the help of bullocks and the soil was prepared for sowing.[4] Ploughing was an important occupation.

1. Cf., Maity, S. K., *Economic Life in Northern India in the Gupta Period*, p. 33.
2. *Bṛhat Kalpa Sūtram*, Vol. II, Chap. I, V. 825, p. 263.
3. *Cf.*, *Ibid.*, Vol. II, Chap. I, V. 826, p. 263.
4. *Cf.*, Sen, M., *op. cit.*, p. 193.

Ploughing was done by the peasants themselves or by the slaves and the labour employed by them. A large number of ploughs were used by some peasants. At some places the land was ploughed with hundreds and thousands of ploughshares. Upāsakadaśāṅga tells us about Ānanda, a rich merchant and an agriculturist, who in order to put a check on his external possessions, limited his cultivable land to five hundred ploughs, each one ploughing one hundred acres (Niyattaṇa) of land.[1] It means that though affluent and well-off people in those days possessed vast tract of agricultural lands, yet there was a limit to that and this shows a religious and a socialistic spirit of the society. The farming must have been extensive.

In order to provide protection to the fields from the beasts and thieves, fences (Vāḍı) were laid around them. This is substantiated by the reference occurring in Jñātādharmakathāṅga Sūtram,"....Karittā Vāḍi parikkhevaṁ karemti...."[2]. This also demarcated the field of one peasant from that of the others. It was laid down that if a field was situated near a pasture ground and not protected by a fence, the herdsman was not responsible for the destruction caused to the crop.[3] Fencing of the field enjoined upon the cultivators an obligation and this shows the prosperous and scientific nature of agricultural occupation.

(ii) Sowing

Sowing of seeds (Vapaṇa) was mostly done in the rainy season. Great care was taken to preserve the germination capacity of the seeds and as such these were stored in a safe place before being brought for sowing purposes. Sowing was done by hand. The broadcast method was usually followed, but in certain crops e g. rice, ginger, etc., transplantation system was adopted wherein tiny plants when about 6" high in the nursery were transplanted in rows in the fields set for the purpose. There is mention of transplantation being done twice or thrice in Jñātādharmakathāṅga Sūtram in the narration "Te paṁca sāli akkhaye vavaṁti, duccaṁpi, taccaṁpi, ukkhaye nihae karenti...."[4] in order to get good yield. Fields were carefully prepared for growing various kinds of crops. To help the plants grow smoothly the weeds were pulled up from the fields. Gustav Roth, a German scholar of the University of Goettingen (West Germany) in his article "The Similes of the Entrusted Five Rice-Grains and their Parallels" has appreciated the rice breeding technique, followed by Rohiṇī, the fourth daughter-in-law of Dhaṇṇa Satthavāha in order to get a bumper yield. Roth writes,

1. *Cf.*, *Upāsakadaśaṅga Sutram*, Chap. I, S. 19, p. 27.
2. *Cf.*, *Jñatādharmakathāṅga Sūtram*, Vol. II, Chap. VII, S. 5, p.200.
3. *Cf.*, Maity, S. K., *op. cit.*, p. 100.
4. *Jñātādharmakathāṅga Sūtram*, Vol. II, Chap. VII, S. 5, p. 200.

"The Rohiṇī-passage (in Jñātādharmakathāṅga) also includes more interesting terms which refer to rice-breeding techniques. In Suttāgame I, p. 1007, 22-29, we read that at the beginning of the rainy season the household servants sow the five unbroken rice grains on a small well-prepared bed (....khuḍḍāgaṁ keyāraṁ su-parikammaṁ karenti ....te pañca sāli—akhae vāvanti). Twice and three times they transplant the seedlings (doccaṁpi taccampi ukkhaya nihae karenti), they enclose the field by a bund (vāḍi-parikkevam karenti). The rice plants reared in this way, become deep blue (sāli jāyā kiṇhā kiṇho bhāsa), then they become endowed with leaves, round stems, with young cornfruits, shoots, fragrance, milky juice and compact cornfruit, they become mature and fully accomplished, they get spear-shaped leaves, they have green joints and sub-divided stems (taeṇam te sālı pattiyā, vattiyā, gabbhiyā pasūya, āgaya-gandha khirāiyā, baddha-phalā, pakka, pariyāgayā, sallaiyā, pattaiyā hariya--pavva-kaṇḍā, jaya yāvi hotthā). Thus, the process of maturity of the rice plant is referred to "[1]

The description of the art of sowing seems very scientific. The mention of transplanting being done twice or thrice in Jñatādharmakathāṅga to get good yield tells us not only about efficient agricultural practices prevalent and practised in those early days, but also about the scientific nature of cultivation.

(iii) Irrigation

Different systems of irrigation were in vogue in ancient India as revealed in the canonical texts Apart from the rainfall, the water from the rivers, lakes, ponds, wells and canals were used for irrigating the fields. Bṛhat Kalpa Bhaṣya tells us that while rainfall was the main source of water supply in the Lāṭa Deśa (Western India), the fields were irrigated from rivers in Sindhu (North western India), from ponds in Draviḍa (South) and from wells in Uttarapatha (Northern India). There is also a reference of flood water (aipurae) being utilised for the purpose.[2] Lands were irrigated by canals (sāraṇi pāṇiya) in Tosali region.[3] As discussed earlier the fields known as 'Setu' were irrigated by means of well and the 'Ketu' depended on rainfall. The peasants irrigated their fields by turn from a common water-source (saraṇi paṇiya). Small ditches (Khātiyā) were dug near the fields for the purpose of holding water for irrigation.

1. Gustav Roth, "The Similes of the Entrusted Five-Rice-Grains and their Parallels", *German Scholars on India*, Vol. I. pp. 237-238.
2. *Cf.*, *Bṛhat Kalpa Sūtra*, Vol. II, S. 1239, p. 383-384.
3. *Ibid.*, p. 332.

The frequent appearance of famines in ancient India as mentioned in the Jaina canonical literature clearly shows that a large region was vulnerable to drought where in the absence of rains there was no alternative arrangement of irrigation. The famines occurred not infrequently. It came with devastating effects. The people including the Jaina monks suffered terribly for want of food and water.

(iv) Reaping

When the crops e. g., paddy (săli), wheat (godhũma), barley (yava), etc., were ready and ripe, they were reaped by the peasants with the help of a sharp sickle (dătra or asiyeṇaṃ). It was then thrashed (malita) and winnowed (pūta)[1] with a winnowing-fan (Suppa).

After separating the chaff, the pure grain (paripũta) was measured or weighed (miyamaṇa).

(v) Storing

The harvested corn was stored with great precaution. They were kept in grannaries (Koṭṭhāgāra) made of straw, bamboo, grasses (palya), etc. on an elevated platform or on the upper storey of the houses. It was covered with the cowdung from all sides, closed (pihita) and completely sealed up with mud so that the corn did not lose its food value or the germination capacity for a number of years.[2] 'Samvāha' has been mentioned as a place which was situated on a mountain or at some other place of safety where the farmers used to store their grains.[3] Various forms of storage have been mentioned in the texts which are known as kuṁbhī, karabhī, pallaga, muttoli, mukha, idura, alimda, ocāra or apacāri, etc.[4]

The system of storing cereals, pulses, oilseeds, etc., prevalent in those days preserved the germination capacity of the seeds for a period ranging from one year to seven years. The cereal seeds could be preserved for three years[5], seeds of pulses for five years and oilseeds like linseed (alasi), mustard (sarsapa), etc for seven years.[6] This again shows high degree of scientific knowledge about the various phases of agricultural occupation. It is a matter of great pride to find that the

1. *Cf.*, *Niśītha Sūtram*, Vol. I, V. 293, p. 102.
2. *Cf.*, *Jñātādharmakathanga Sūtram*, Vol. II, Chap. VII, p. 206.
3. *Cf.*, Jain, J. C., *Life in Ancient India as Depicted in Jaina Canons*, p. 90.
4. *Cf.*, *Idem*.
5. *Cf.*, *Sthānanga Sūtram*, Vol. I, Chap. III, S. 23, p. 673.
6. *Cf.*, *Sikdar*, J. C., *op. cit.*, p. 274.

results of the modern agricultural researches agree with the knowledge of the people of ancient India in matter of seeds preservation.

Agricultural inputs

In modern agro-economy input-output analysis has assumed a great significance. The important inputs in agricultural industry are seeds, fertilisers, implements, bullocks, water (irrigation), manpower, etc A certain amount of inputs applied to the land results in some output and the ratio of the two in different conditions is a matter of interesting study.

Unfortunately, the detailed records of early agricultural activities are lacking and we have no statistical information to analyse and to come to some concrete conclusion. Hence, while studying the agricultural life of ancient India we have to depend on informations available here and there in different texts and come to general conclusions.

Among the inputs we have discussed seeds and systems of irrigation while dealing with agricultural operations. We shall now discuss fertilisers, agricultural implements, bullocks aud manpower.

Fertiliser

The texts do not mention clearly about the use of fertilisers in raising of crops but the harvesting of rich crops is indicative of the use of some sort of fertiliser. The mention of the use of ashes, cowdungs, leaves, etc lead us to suppose that these articles must have been used by the peasants as manures to increase the productivity of their farms.

Agricultural implements

The texts mention many implements which were used in agricultural operations viz. plough, spade, sickle, grass-cutter, axe, scissors, knives, etc.

Wooden ploughs (hala) driven by the bullocks were extensively used. The different kinds of ploughs were 'hala', 'kuliya'[1], and 'daṁtalā'[2].

Spade (Sattara—Phāvarā in Hindi) was used for digging the earth, making water-courses, throwing soil, etc.

Sickle (asiya or dātra) was used for reaping the crop. It was sharpened and tempered (ṇavapajjaṇaeṇaṁ)[3].

Sharp axe (tikkheṇa parasuṇa)[4] was used for cutting the branches of trees, logs, etc.

1. *Cf.*, *Niśītha Sūtram*, Vol. I, V. I, p. 3.
2. *Cf.*, *Ibid.*, V. 60, p. 31.
3. *Cf.*, *Jñātādharmakathāṅga Sūtram*, Vol. II, Chap. VII, S. 6, p. 201.
4. *Cf*, *Arthāgama* (Bhagavati Sūtram), Vol. II, Chap. V., S. 571, pp. 1038-39.

Grass cutting implement (kulita) has been described in Niśītha Sūtra. It was wooden instrument with iron nails (ayakīlagā) fixed at the end with an iron plate.[1]

Scissors (pippalaga), knives (churiyā) were used for minor operations, e. g., trimming of the plants, preparation of bundles, etc.

Bullocks

Bullocks were used to drive the plough, lift water from the well and thrash the crops. They were also utilised for the purpose of transport, e. g to draw the carts. They have been considered as one of the important parts of the wealth of an individual family.

There is reference of castration of bulls and piercing of their noses for taming and yoking them so as to utilise them for agricultural operations and transport purpose.[2]

There is description of two decorated handsome bullocks yoked to the cart (chariot) of Ṛṣabhadatta who goes to Lord Mahāvīra for his darśana.[3]

Labour

Manpower was needed for agricultural operations. The peasants employed various kinds of labour who assisted them in cultivation. The different classes of labour were the following :—

(i) Slaves—both males and females (dāsa-dasī)
(ii) Hired labour or wage earners (bhayagas or kammakāras) and
(iii) Servants (sevagapurisas)[4]

(i) *Slaves*

Slavery was a common practice at that time and both the male and female slaves (dāsas and dasis) were employed for doing all sorts of agricultural and domestic work. The rich peasants invariably had a large number of slaves. Even the ordinary householders employed them for their domestic need and assigned various agricultural work e. g. ploughing, sowing, winnowing, thrashing, etc.

There is mention of six kinds of slaves in the texts[5]—(i) slaves by birth (gabbha), (ii) slaves by purchase (kiya), (iii) slaves for non-payment of debts (aṇaya)[6], (iv) slaves because of famines (dubbhikkha)[7],

1. *Cf.*, *Nisītha Sūtram*, Vol. I., V. 60, p. 31.
2. *Cf*, Sikdar, J. C., *op. cit.*, p. 285.
3. *Cf.*, *Ibid.*, p. 286.
4. *Cf.*, Sen, M., *op. cit.*. p. 203.
5. *Cf.*, *Nisītha Sūtram*,, Vol. III, V. 3676, p. 263.
6. *Cf.*, *Piṇḍa Niryukti*, V. 319, p. 60.
7. *Cf.*, Jain, J. C., *op. cit.*, p. 107.

(v) slaves by punishment for crimes(sāvarāha) and (vi) slaves as prisoners of war (ruddha). The Brāhmanic as well as the Buddhist literatures also mention about the different classes of slaves[1]. The masters generally did not treat their slaves well. They were subjected to all sorts of torture and were seldom made free. Slaves could be liberated at the will of the master. The slave accepting Sanyāsa (monkhood) was generally set free by his master.[2]

(ii) Hired Labour

The hired labourer or wage-earner (bhayagas and kammakāras) worked in the agricultural fields in consideration of some payment, in cash or in kind. The two systems of payment of wages—time rate and piece rate—were prevalent in those days also. Four kinds of wage earners have been mentioned in the texts[3]—(i) labourers who were employed on daily wages. They worked only in day time. (divasa bhayae), (ii) those employed on a journey (jatta bhayae), (iii) those employed for a definite period on a stipulated wages to do any type of work (uccatta bhayae), (iv) those employed on contract basis receiving their wages after finishing the work (kavvala bhayae). This class of labour was generally employed for doing hard manual work. e. g., digging the earth, clearing the fields, etc. Many Hindu texts of the time describe the various kinds of labour which confirm that hired labour (bhṛtakas) were engaged for agricultural operations.[4] The 'kammakāras' were the agricultural labour who were employed for cultivating the soil.

(iii) Servants

The peasants also employed a number of servants for personal work (sevagapurisas) who also carried on agricultural duties as ordered by their master. Jñātādharmakathānga mentions about servants who were allotted external duties (bāhirapesaṇa)[5] e. g. removing and throwing the ashes, cowdungs, etc. Other servants did the work of thrashing, pounding, grinding, husking, etc.[6]

Wages

Remuneration to labour was paid either in cash or in kind or in both. Payment in cash was preferred. The practice of paying wages

1. *Cf. Nārada Smṛti,* Chap. V, V. 23, p. 284.
2. *Cf., Nisītha Sutram,* Vol, III, V. 4489, p. 430.
3. *Cf., Sthānānga Sūtram,* Vol. II, Chap. IV, S. 32, p. 562.
4. *Cf., Nārada Smṛti,* Vol. V, V. 21 & 23, p. 284.
5. *Cf., Jñātādharmakathānga Sūtram,* Vol. II, Chap. VII, S. 6, p. 221.
6. *Cf., Ibid.,* p. 222.

in kind. e. g. in food, milk, etc. was also prevalent as mentioned in the texts.[1] The mention of payment of wages in milk depicts that the living condition of labourers was good.

An analysis of the different kinds of hired labour shows that wages were paid both on the time basis and piece rate basis. Fixed payment for a fixed work ensured fast work bringing about efficiency of labour.

Agricultural output

A wide range of agricultural produce has been mentioned in the Jaina canonical texts which shows that agriculture in those days was highly developed. Most of the foodgrains of today were known to the people of that time. The agricultural output of the period can be studied under the following heads :—

(a) Cereals—Wheat, rice, barley, pulses, millets, etc.
(b) Beverages—Tea, coffee, cocoa, etc.
(c) Other food crops—Sugarcane, spices, oilseeds, etc.
(d) Fibre crops—Cotton, hemp, etc.

(a) Cereals

The Bṛhat Bhāṣya mentions seventeen varieties of grains[2] whereas the Niśitha Sūtram Bhāṣya refers to twenty four varieties of foodgrains (dhānya), etc. produced in those days.[3] The foodgrains, etc. mentioned are as follows :—

(i) Java (barley)
(ii) gohuma or godhūma (wheat)
(iii) vihi (rice—common quality)
(iv) sāli (rice—fine quality)
(v) saṭṭhiya (rice—ripening in sixty days—coarse variety)
(vi) koddava (rice—inferior variety)
(vii) aṇṇā
(viii) kaṁgu (millet)
(ix) rālaga
(x) tila (sesame)
(xi) mugga (pulse)
(xii) māṣa (pulse)
(xiii) atasi (linseed)
(xiv) hiriṁamṁtha or caṇaka (gram)
(xv) tipuḍa

1. *Cf.*, *Niśitha Sūtram*, Vol. III, V. 4501, p. 433.
2. *Cf.*, *Bṛhat Kalpa Sūtram*, Vol. IV, V. 3300-3304, p. 926-927.
3. *Cf.*, *Niśitha Sūtram*, Vol. II, V. 1029-1030, p. 109.

(xvi) nipphāva (a kind of wheat)
(xvii) alisiṁdarā (pea)
(xviii) paṁḍara—cavalagā
(xix) ikkhu (sugarcane)
(xx) masūra (pulse)
(xxi) tuvarí (pulse)
(xxii) kulattha (pulse)
(xxiii) dhāṇaga
(xxiv) kalā (pulse—maṭara)

From the above list some important cereals produced and consumed during the period are described hereasunder :—

Rice (śāli)

Rice seems to have been the most popular food in those days. We find four main varieties of rice being produced in the fields. They were (i) śāli (fine variety, ripening in winter), (ii) vīhi (common variety ripening in autumn), (iii) saṭṭhiya (rice grown in sixty days in summer) and (iv) koddava (inferior variety). The śāli was the best variety. In the texts we find mention of four sub-varieties viz. kalamaśāli,[1] rakta-śāli and gandhaśāli[2]. Kalamaśāli was highly relished. Gruel (tandula-peya) prepared from rice was taken by the monks at the end of a long fasting.[3] The 'saṭṭhiya' variety of rice which could be grown in sixty days must be high yielding variety and of rough quality.

Wheat (gohuma)

It was another important foodgrain. Various food preparations were made from wheat flour. Wheat was grown in large area which is evidenced from the fact that the traders went out for trade with carts loaded with wheat.[4]

Barley (java)

Barley also seems to have been a common cereal. There is mention of barley meal in the Niśītha Cūrṇi.[5] Capable of being grown on poorer soil and its productivity being greater than wheat, peasants must have been tempted to grow this cereal on less fertile lands.

Pulses

Different varieties of pulses were grown in those days. Pulses commonly used were caṇaka (gram), mugga (mūṁga), māṣa (urada),

1. *Cf., Upāsakadaśāṅga Sūtram*, Chap. I, S. 31, p. 40.
2. *Cf., Bṛhat Kalpa Sūtram*, Vol. IV, Chap. II, V. 3301, p. 927.
3. *Cf. Niśītha Sūtram*, Vol. I, V. 487, p. 162.
4. *Cf., Ibid.*, Vol. IV, V. 5664, p. 111.
5. *Cf., Ibid.*, Vol. II, V. 1075, p. 117.

tuvarī[1] (arahara), kalāya (maṭara), kulattha (kulathī), rāyamāṣa (rājmā), etc.

(b) Beverages

Pāṇa (drink)[2] has been frequently mentioned in the texts, but it mentions only honey (mahu), milk (khīra), fruit-juice and wine (majja) as the popular drinks. It seems that the modern beverages like tea, coffee, cocoa, etc., which are agricultural products, were not known to the people at that time.

(c) Other Food crops

Some of the other important food crops were sugarcane, spices and oilseeds which were grown in those days.

Sugarcane

Sugarcane (ikkhu or ucchu) was widely used by the people and hence it must have been an important crop of the time. Sugarcane store houses (ucchu ghara), juice extracting machine (ikkhu-jamta), sheds for pressing sugarcane (jaṁta-sālā) are mentioned in the texts[3] which show that the crop was grown in a large area. Puṇḍravardhana was an important centre for sugarcane cultivation.[4]

Spices

Spices were used to make the food tasty. Various kinds of spices have been mentioned in the different texts. Jīraga (cuminseed), mariya (black-pepper), pippali (long pepper), lavaṁga (clove), elā (cardamom), addae (ginger), suṁthi (dry ginger), hiṁgu (asafoctida), kuthumbhari (corriander), piṇḍa halidda (tumeric)[5], etc. were grown and consumed by the people.

Betel

Chewing of betel leaf (taṁbola) was quite common in those days. It was not prohibited for pious Gṛhasthas.[6] It must have been grown in a large area. Betel leaves were usually taken with five spices, viz., jāiphala (a kind of scented nut), kokkola (cinnamon), kappūra (camphor), lavaṁga (cloves) and pūgaphala (arecanut)[7].

1. *Cf.*, *Piṇḍa Niryukti*, S. 623, p. 168.
2. *Cf.*, *Vyākhyā Prajñapti*, Part VII, Chap. I, S. 263, p. 526.
3. *Cf Niśītha Sūtram*, Vol. IV, V. 5742, p. 127.
4. *Cf.*, Jain, J. C., *op. cit.*, p. 91.
5. *Cf.*, *Vyākhyā Prajñapti*, Part VI, Chap. III, S. 276, p. 547.
6. *Cf.*, *Upāsakadaśāṅga Sūtram*, Chap. I, S. 38, p. 44. (Gāthāpati Ānanda renounces aromatic materials except the use of betel)
7. *Cf.*, *Niśītha Sūtram*, Vol. III, p. 319.

Oilseeds

The Jaina canonical texts mention various kinds of oilseeds grown in that period. These are sarisava[1] or sarasapa[2] (mustard), atasī (linseed), eramḍa (castor seeds), tila (sesamum), etc. Mustard oil and sesame oil were commonly used.

(d) Fibre crops : Cotton and Hemp

Different types of fibres were used for making cloth, wrapping materials, etc. The texts frequently mention kappāsa[3] (cotton) and saṇa[4] (hemp) which were grown in those days. The description of different varieties of cloths in the texts gives evidence of the production of various grades of cotton viz. fine, medium and coarse. Sāmali trees yielded a silky cotton fibre.[5]

2. Horticulture

The canonical texts frequently mention different horticulture products viz. fruits, vegetables and flowers which depict that horticulture was a popular pursuit of the people at that time. Gardens and parks (ārāma, ujjāṇa or nijjāṇa)[6] were full of fruits and flowers of various kinds which besides yielding their products provided a calm and quiet place where people could enjoy the natural surroundings.

Fruits

Various kinds of fruits were grown and consumed by the people in those days. The important fruits mentioned are :—

(i) Āmra or rasāla or aṁba (mango)
(ii) Jambu (black berry)
(iii) Kosamba, Kadalı (banana or plantain)
(iv) Dāḍima (pomegranate)
(v) Drākṣā or kākati (grapes)
(vi) Khajjurī (date)
(vii) Nālieri (cocoanut)
(viii) Tāla (palm)
(ix) Tetali or cincā (tamarind)
(x) Atthiya (guava)
(xi) Phanasa (jack fruit)
(xii) Mātuluṁga (citron)
(xiii) Temdeya, etc.

1. *Cf.*, Sikdar, J. C., *op. cit.*, p. 276.
2. *Cf.*, Sen, M., *op. cit.*, p. 133.
3. *Cf.*, *Bṛhat Kalpa Sūtram*, Vol. IV, Chap. II, V. 3663, p. 1018.
4. *Cf.*, *Idem.*
5. *Cf.*, *Sūtra Kṛtāṅga*, Chap. VI, S. 18, p. 101.
6. *Cf.*, *Jñātādharmakathāṅga Sūtram*, Vol. I, Chap. I, S. 17, p. 225.

The mango was the most popular fruit in India as it finds a very frequent mention in the canonical texts. Mango groves consisting of one thousand mango trees have been mentioned.[1] Delicious drinks, syrups, etc. were prepared from the juice of mangoes, grapes, oranges, etc. The fruits could be ripened by four methods :—

(i) by covering fruits with husk or straw (imdhaṇa) e. g. mangoes.

(ii) by heating process (dhūma)—fruits like temduga were subjected to this process.

(iii) by mixing fruits with ripe fruits (gaṁdha) e. g. mātuluṁga, mangoes, etc.

(iv) by natural process on trees (vaccha).[2]

Fruits were also dried up for preservation. Koṭṭaka was a place for this operation.[3] Besides being grown in orchards, fruits were gathered from jungles and were carried to cities for sales.

Vegetables

Different kinds of vegetables were grown in the vegetable gardens (kaccha).[4] The consumption of vegetables was considered essential for digesting food. This is substantiated by the reference occurring in Niśītha Cūrṇi which is as follows :—

"....vaṇṇassati kāyeṇa ya suhaṁ āhāro ṇipphajjati...."[5] This proves that medical science was also in a developed state. The words 'sāka' and 'mūla' were used for vegetables. 'Sāka' generally meant leafy vegetables whereas 'mūla' indicated root plants e. g. onion, raddish, garlic, etc. The Jaina texts forbid the consumption of certain vegetables as it leads to killing of insects. One of such vegetables is brinjal. The texts also condemn the use of onions and garlics. Fa-Hien, the Chinese traveller, wrote that onion and garlic in those days were taken only by the Caṇḍālas.[6]

The main vegetables grown were ālue (potato), mūlae (raddish), tuṁbi (gourd), vāiṁgaṇi or vṛntaki (brinjal), palaṁḍu (onion), lasuṇa (garlic), pālaṁka (pālaka), karela, siṅghāda or śṛngatāla (water-nuts), khīrā or vāluṁka (cucumber), etc.[7]

1. *Cf.*, *Upāsakadaśāṅga Sūtram*, Chap. VII, S. 177, p. 269.
2. *Cf.*, *Niśītha Sūtram*, Vol. III, V. 4710, p. 484.
3. *Cf.*, Jain, K. C., *op. cit.*, p. 281.
4. *Cf.*, *Idem.*
5. *Niśītha Sūtram*, Vol. III, V. 4837, p. 517.
6. *Cf.* Sen, M., *op. cit.*, p. 136.
7. *Cf.*, *Vyākhyā Prajñapti*, Part VII, Chap. III, S. 276, p. 547.

Flowers

People were fond of flowers. The groves and gardens were maintained for recreational purpose. Various kinds of flowers e. g. navamālikā, kaṇera, mogarā, yūthikā, mallikā, vāsantī, mṛgadantikā, campaka, kunda (jasmine), śyamalatā, palāśa, bandhujīvaga have been mentioned in the texts. Among the water flowers, utpala (blue lotus), padma (lotus) nalina (water lily) are frequently mentioned which were grown and used by the people.

The flowers fulfilled the aesthetic needs of the people. At the same time they had an economic importance in as much as some people depended on its trade. It is mentioned that people of Koṅkaṇa maintained themselves by selling fruits and flowers.[1] Flower garlands and bouquet of various designs were prepared and sold. Saffron (kuṁkuma or kesara) was an important flower product. It yielded a good income to the producers. The flower attracted the bees who yielded honey (mahu) of different varieties, e. g. macchiya, kuṭṭiya, bhāmara, etc.[2]

3. Animal Breeding including Dairy Farming

Animal husbandry was an important occupation in those days. It appears from the texts that the economic usefulness of the domestic animals was fully realised and valued by the people. Different animals had different uses and they were utilised accordingly. The animals commonly mentioned are elephants, horses, cattle, sheep, etc.

Elephants and Horses

The elephants and horses were mostly used by the kings and their warriors for fighting battles. They were also utilised for transport purposes. The tusks and bones of elephants commanded a high value. Ivory business (daṁta vāṇijja)[3] was an important business of the merchants.

Cattle rearing

The cattle e. g. cows, bulls, bullocks, buffaloes, etc. constituted an important part of the household property on account of their economic value.[4] The cattle were used for the following main purposes :—

(a) as draught animals,
(b) for the production of meat,
(c) for dairy farming,
(d) for hides and skins.

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1. *Cf.*, *Bṛhat Kalpa Sūtram*, Vol. II, V. 1239, p. 383-384.
2. *Cf.*, Jain, J. C., *op. cit.*, p. 93.
3. *Supra*, p. 12.
4. *Cf.*, *Upāsakadaśāṅga Sūtram*, Chap. I, S. 4, p. 9.

(a) Draught animals

Bulls and bullocks were used as draught animals. Cultivation was done by cattle-drawn ploughs. The cattle except cows were used for drawing carts and carrying loads.

(b) Production of meat

The Jaina canons laid stress on Ahimsa, and prohibited the consumption of meat (including beef), honey and wine.[1] Sthānāṅga Sūtram mentions "Pañcindiya vaha bhūyam mamsaṁ duggandhamasui vibhacchaṁ." It means that meat is obtained by killing animals having all the five sense organs. It is bad smelling and not worth taking. Yet meat eating in those days was largely in vogue. There is mention of slaughter- houses.[2] Meat diet was prominent among the 'mlecchas'[3] (lower castes) but even the higher castes did not object to meat-eating. As such the cattle along with goats, sheep, deer, etc. were butchered for the purpose. The teachings of Lord Mahāvira, however had a salutary effect and the killing was reduced to some extent.

(c) Dairy farming

Dairy farming was carried on in a big way. There were large cowsheds (gomaṁdava) where the herds of cows, bulls and calves were kept. There was abundant supply of milk (dugdha or khira) and its four products (gorasa) viz. curd (dadhi), butter milk (udasi or maṭṭha), butter (ṇavaṇiya or navanita), clarified butter or ghee (ghṛta or ghaya).[4] Milk and milk products were available in plenty at the dairy (dohaṇavāḍaga).[5] The products were stored in 'khira sala'.[6] Many articles of daily food were prepared with the help of milk and its products. People could get highly nutritious food because of the easy and large supply of the dairy products.

(d) Hides and skins

The hides of the dead cows and buffaloes were used in leather work for making shoes, bags, etc. The slaughter houses besides supplying meat yielded hides for leather work.

Other animals

Other important animals of economic use were sheep, goats, deer, camels, etc. Sheep provided mutton[7] as well as wool (uṇṇiya). Milk

1. *Cf*, *Sthānāṅga Sutram*, Vol. I, Chap. II, S. 6, p. 253.
2. *Cf.*, Jain, K. C., *op. cit.*, p. 283.
3. *Cf.*, *Niśītha Sūtram*, Vol. III, V. 4843, p. 518.
4. *Cf.*, Sikdar, J. C., *op. cit.*, p. 288.
5. *Cf.*, *Niśītha Sūtram*, Vol. II, V. 1199, p. 145.
6. *Cf*, *Ibid.*, V. 2534, p. 456.
7. *Cf.*, *Sūtrakṛtāṅga*, Part II, Chap. VI, V. 37, p. 307.

and meat were obtained from goats. Camels were used by merchants (vaṇikās) for carrying loads. Milk was also procured from she-camels.[1]

Poultry farming also seems to be developed as some texts refer to eggs of hen (kukkuḍi-aṁḍaga).[2]

4. Pisciculture (Fishing)

Fish was an important food of a large section of the people.[3] The canonical texts, however, highly condemn the killing of fishes and other living creatures and lay down that one should not kill any creature himself nor should induce others to do so, nor consent to such act of others. Similar restrictions have been placed on its consumption.

Fishing was carried on by a certain class of people to earn their livlihood. The fishermen (macchabandhā)[4] went out to the rivers and ponds early in the morning for fishing with their fishing hooks and nets. They knew the art of manufacturing fishing-nets by learning the methods of putting different kinds of knots.[5] Many kinds of fishes have been mentioned in the texts e. g. pāṭhiṇa, timi, timiṁgala, etc.[6]

Methods of fishing

This occupation was carried on a large scale by some rich persons who engaged hired labour for fishing. There is mention of a fisherman, 'Saurikadatta', employing a large number of labour on salary who went out in river Yamuna on small boats and caught fishes applying twenty-two different methods. These methods mentioned are Hṛdagalana, Hṛdamalana, Hṛdamardana, Hṛdamanthana, Hṛdavahana, Hṛdapravahana, Prapañcula, Prapampula, Jṛmbhā, Tṛsarā, Bhisara, Ghisarā, Dvisarā, Hilliri, Ghilliri, Lalliri, Jāla, Gala, Kūṭapāsa, Valkabaṁdha, Sūtrabandha and Valabandha.[7] The methods included roaming in the river on the boat and catching fishes by filtering water through a cloth, by different kinds of nets, by ropes, by diverting water through small watercourses, catching fishes in muds, etc. The fishes were brought on boats, piled up at some place on the river side and sent to different places for sale. A large quantity of them were dried up, presumably for being preserved for sometime.

1. *Cf.*, *Nišītha Sūtram*, Vol. II, V. 1593, p. 238.
2. *Cf.*, *Vyākhyā Prajñapti*, Part VII, Chap. I, S. 268, p. 532
3. *Cf.*, *Nišītha Sūtram*, Vol. III, V. 3708, p. 271.
4. *Cf.*, *Praśna Vyākaraṇa*, Chap. I, S. 4, p. 16.
5. *Cf.*, Sikdar, J. C., *op. cit.*, p. 292.
6. *Cf.*, *Śri Praśna Vyākaraṇa Sūtram*, Chap. I, S. 3, pp. 5-6.
7. *Cf*, *Vipākasūtram*, Chap. VIII, pp. 451-452.

Sources

From the texts it seems that fishermen went to rivers, lakes and ponds (daha or hṛda) for fishing and thus, the main source of procuring fish was fresh water. There is no mention of inshore fishing or deep sea fishing.

Rearing of fishes

The texts do not give any indication of pisciculture i.e. artificial breeding and rearing of fishes. Hence it is presumed that the fishermen depended on what the nature provided in the fresh water. The nature was bountiful in this respect and, as such, enough fishes could be procured to meet the local needs.

5. Forestry

Forests have been a significant part of the Indian economy since ancient days. They have been considered essential for economic development in as much as, besides bestowing many geographical advantages, they provide basic materials for building, furniture and various industries. The most important forest products are wood and timber which have been used by the mankind to fulfil his various needs—domestic, agricultural and industrial.

'Vaṇa' and 'Aḍavi'

The term 'Vaṇa' in general has been used in the canonical texts for forests. A deep and dense forest is called 'aḍavi' (or aṭavi)[1]. There are references of big dense forests in the texts. A dense forest (aḍavi) of eighteen 'Yojanas' near Rāyagiha (Rājgir) has been mentioned.[2]

Products

The main products can be studied under two heads—the flora and the fauna.

Flora

Various kinds of trees were found in the forests. These were Aśoka, Tilaka, Lakuca, Chatropa, Śirīṣa, Saptaparṇa, Lodhra, Dhava, Candana, Arjuna, Nipa, Kuṭaja, Kadamba, Savya, Panasa, Daḍima, Śala, Tala, Tamāla, Priyaka, Priyaṅgu, Purpaga, Rājabṛkṣa, Nandibṛkṣa, etc.[3]

A deep forest of 'Malukā' trees has been mentioned near Rājgir.[4] Other trees mentioned are amra, nimba, jambu, aṅkola, bakula, palaśa,

1. *Cf.*, *Bhagavati Sūtra*, Vol. XI, Chap. I, S. 9, p. 550.
2. *Cf.*, Sikdar, J. C., *op. cit.*, p. 277.
3. *Cf.*, *Uvavaiya Sūtra*, S. 4, pp. 22-23.
4. *Cf.*, *Jñātādharmakathāṅga Sūtram*, Vol. I, Chap. II, S. 1, p. 569.

putrañjana, bibhitaka, śiṁśapā, śriparṇi, tinduka, kapittha, mātuliṅga, bilva, āmalaga, phaṇasa, aśvattha, udambara, vaṭa, etc.[1]

Different kinds of trees provided firewood and timber. The latter was used for furniture, building materials, enclosures, staircases, pillars, agricultural purposes, e. g. for making ploughs, transportation e. g. for making carts, chariots, boats, ships, and for various industrial needs.[2] Vaṇakamma was an occupation dealing in wood and in various other forest products. Iṁgālakamma was another occupation which was concerned with preparing charcoal from firewood.

Various kinds of bamboos viz. cāvavamsa, veṇu, kaṇaka, kakkāvaṁsa, varūvaṁsa, daṁda, kuḍā, etc., creepers viz. vetta, satta, allai, etc., grasses, medicinal herbs viz. eriṁḍa, haritaga, taṇa, etc. were also obtained from the forests.[3]

Fauna

Different species of animals and birds were found in the forest regions. These were caught by trapping them with the net (kūḍapāsa)[4] or by shooting them with arrow. Hunting was a pastime for rich people, nobles and kings, whereas it was an occupation for a class of people who killed wild lives, brought them to town and sold them for money. Hunting of deer was an important occupation (miyavittie). There were regular hunters (miga luddhaya) whose occupation was to capture or kill the animals and earn their living by selling them.[5] Many animals viz. elephants, boar, tiger, leopard, deer, etc. were either trapped or killed. The fowler (sauṇiyā)[6] trapped the birds and sold them in the market. Pigeons, peacocks, cuckoos, parrots and other birds were tamed by the people.

The fauna provided many articles of economic value e. g. hides, skin, bones, ivory, tails, etc.

Afforestation

We find in the texts rich and philanthropic persons planting trees and developing forests. In Jñātādharmakathāṅga we find Maṇikāra Śreṣṭhi planting trees and developing forest around a big lake.[7] It means that people understood the importance of trees and forests even

1. *Cf.*, Jain, K. C., *op. cit*, pp. 283-284.
2. *Cf*, *Śri Praśṇa Vyākaraṇa Sūtram*, S. 3, p. 14.
3. *Cf.*, Sikdar, J. C., *op. cit.*, pp. 281-282.
4. *Ibid*, p. 292.
5. *Cf.*, *Śri Praśṇa Vyākaraṇā Sūtram*, Chap. I, p. 16.
6. *Cf.*, *Idem.*
7. *Cf.*, *Jñātādharmakathāṅga Sūtram*, Vol. II, Chap. 13, p. 744.

in those days. It can be concluded that despite the fact that a large region was full of forests, people gave importance to afforestation. The texts reveal that it was done in a planned manner so that it looked beautiful and appealed to the aesthetic sense.[1]

6. Mining

Mining is an important primary industry in which minerals and metals are extracted from the womb of the earth for the economic and social needs of human beings. The availability of minerals and metals has a great bearing on the economic development of a country.

Mining was an important industry at that time as well. The Jaina canonical texts mention about the extraction of various kinds of minerals, metals and precious stones. The term 'agara' occurring in the texts denotes the mines which provided many kinds of mineral products. The references in the texts of various professions and trade in metallic commodities clearly show a highly developed industry of mining and metallurgy in that period.

Metals

The canonical texts mention various metals viz., iron (aya, loha), copper (taṁba), tin (tauya), lead (sisaga), silver (ruppa), gold (suvaṇṇa), etc.[2] which were extracted from the mines. Gold and silver were mostly used in ornaments. Utensils were made from copper. Iron was required for manufacturing agricultural implements and other articles

Minerals

Besides metals many other mineral products were extracted e. g. mica (abhrapaṭala), antimony (añjana), mercury (sāsaga), vermilion (hingulaya), orpiment (hariyala), arsenic or realgar (maṇosila), rock salt (loṇa), soda (usa), sulphur (sogandhaya), etc.[3] These minerals catered to the various needs of people—both domestic and industrial.

Precious stones

Gems and jewels have been frequently mentioned in the texts. Both the king and the people used to keep these as a part of their wealth and affluence. The king's mansion was studded with precious stones of various kinds. The rich people possessed them in large quantity and used them in ornaments and for other purposes. The courtesans (gaṇiya) possessed costly jewels and their chambers were adorned with precious

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1. *Cf.*, *Idem.*
2. *Cf*, *Uttarādhyayana Sūtram*, Vol. III, Chap. 36, V. 73, p. 1679.
3. *Cf.*, *Ibid*, V. 74, p. 1679.

jewels.[1] The palanquins of the kings, nobles and rich persons (śreṣṭhis) were inlaid with costly gems.

The important precious stones mentioned are Gomedaka or Gomayajjae (zircon), Markata Maṇi (maragaya), Vaiḍūya or Vaiḍurya (cat's eye), Candrakānta or Candraprabhā (moonstar), Suryakānta Maṇi, Indranīla (sapphire), Sphaṭika (quartz), Lohitākṣa, Marakata (emerald), Saugandhikā (ruby), Vaira (diamond), etc.[2]

There were persons expert in the field of gem and jewels called Maṇikāras (jewellers). There is a reference of Maṇikāra śreṣṭhi in Rājagṛha who had abundant gems and jewels.[3] Various ornaments of pearls and jewels are mentioned in the texts viz Kaṇagāvali (necklace of gold and gems), rayaṇāvali (necklace of jewels), muttāvali (necklace of pearls), etc.

The above description of the various agricultural, agro-based, mining or forestry occupations clearly depicts the high level of perfection achieved in the respective fields. The mention of the art of fruit preservation proves its abundance on one hand and trade on the other. The transportation of fruits from jungles to cities for sale proves the planned manner in which jungles were developed and maintained. Further, it brings to light the existence of roads and good government. The trade in vegetables and flowers—the highly perishable commodities—is a pointer to the highly developed state of trade and industry. A study of the state of industry will further give an idea of the level of development in the period. Now in this light we will take up the study of the state of industry.

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1. *Cf.*, Jain, Komala Candra, *Bauddha Aura Jaina Āgamo Me Nārī Jīvana*, pp. 152-154.
2. *Cf.*, *Uttarādhyayana Sūtram*, Vol. III, Chap. 36, V. 73-76, pp 1680-1681.
3. *Cf.*, *Jñātādharmakathāṅga Sūtram*, Vol. II, Ch. 13, S. 2, p. 735.

CHAPTER III

SECONDARY INDUSTRIES

Introduction

After having given an account of the primary industries in the last chapter we will now discuss the state of secondary industries in the present chapter. It is a well-known fact that in the beginning man consumed the different products of nature directly. He took cereals, fruits, vegetables, fishes, milk, etc. in the form provided by nature, but gradually started making varied uses of the natural products by putting them to some sort of processing, e.g., the sugarcane was crushed and processed into jaggery and sugar, certain fruits were fermented and turned into wine. Cotton was grown for spinning yarns and manufacturing cloth, iron ore was extracted for making iron and steel. various implements, etc. The products from nature served as raw materials to be converted into some sort of finished products.

Meaning and classification

Man's activities concerned with transforming raw materials into various finished products constitute 'Secondary Industries'. The production of textiles, sugar, steel, utensils, transport vehicles are some of the examples of secondary industries. In primary industry the role of nature is important; in the secondary industry it is of human being. This distinguishes secondary industry from primary industry.

The secondary industry may be classified under two broad heads :—

1. Cottage industries.
2. Industries under factory system.
    - (a) Small scale industries.
    - (b) Large scale industries.

1. Cottage Industries

When production is carried on in the home of a worker with the help of his family members with or without the aid of power, it is called a cottage industry. It was the first stage in the evolution of industries. This household stage of production is the simplest and this was largely followed in the beginning. In the canonical texts also we find indications of production largely being carried out in the home of the workers.

Gradually the household system developed to handicraft stage showing a certain amount of specialisation. The handicraftsmen or the artisans worked in a shop with some helpers. We find a lot of references of handicrafts in the canonical texts. Many handicrafts e. g. handloom industry, woollen industry, carpentry, ivory business, etc. had developed during that period. In course of time there emerged a class of people known as 'merchant-employer', who had his own capital, purchased raw materials in bulk, employed different types of workers and artisans, collected the manufactures and sold them in different markets. The factory system of production grew thereafter.

2. Industries under factory system

The factory system, in the strict sense of the term, was the outcome of the Industrial Revolution of England which came about in the latter half of the eighteenth century. Between 1760-1850, there appeared many technical inventions in the field of industry bringing about fundamental changes in the methods and organisation of industrial production. The old domestic system of industry was replaced by the factory system This was an inevitable result of the introduction of machinery requiring large capital and abundant supply of raw materials, labour, machinery, etc. In modern time we find giant corporations and big factories employing an army of workers. The industries are termed small scale industries or large scale industries according to their size of investment.

(a) Small scale industries

In India at present a small scale industry is defined as an undertaking having investments in fixed assets in plant and machinery not exceeding Rs 10 lakhs and in ancillary industry not exceeding 15 lakhs. Prior to May 1, 1975 this investment was limited to Rs. 7.5 lakhs only. A large number of industrial units are working in India under this nomenclature. Some of the industries are soap, candle making, textiles, khāṇḍasāri, steel rolling, oil extraction, plastic, ancillary industries etc.

(b) Large scale industries

Industrial undertakings investing more than Rs. 10 lakhs in fixed assets in plant and machinery have been put in the category of large scale industry in India and they come under separate regulations in matters of production, excise duty, government help, etc. The organised industries of India come under this category and these account for the major industrial production in India. They are working both in the public as well as in the private sector.

Factories in ancient India

Coming to the ancient India we find that there was no industry under factory system of the modern type. The Jaina canonical texts

do not give any indication of the existence of modern factory system. Nevertheless, we find in the texts that the production of certain commodities was carried on in large scale involving huge capital and a large number of people. In Upāsakadaśāṅga Sūtram there is mention of a rich merchant-employer named Saddālaputra who invested one crore 'Suvaṇṇa' (gold coins) in business and owned 500 workshops (āpaṇa) outside the town of Polāsapura where earthen pots and wares were manufactured in large scale by hundreds of potters. They worked daily for wages which was paid both in cash and in kind.[1] There are other examples at different places in the texts which testify that there were big merchant-employers who commanded great capital and position in the society and established big centres of production. Such units of production may be termed as factories as they very well fit in the present definition of factories in India. The Indian Factories Act, 1948 lays down :—

> "Factory means any premises including the precincts thereof (i) whereon ten or more workers are working or were working on any day of the preceding twelve months, and in any part of which manufacturing process is being carried on with the aid of power or is so carried on, or (ii) whereon twenty or more workers are working, or were working on any day of the preceding twelve months, and in any part of which a manufacturing process is being carried on without the aid of power, or is ordinarily so carried on."[2]

It means that even if only twenty persons worked in a premises and carried on any manufacturing process, the premises would be called a factory and as such in ancient days also where a large number of workers assembled at a place to work under one employer and carried on some manufacturing process it can very well be called a factory. Manufacturing process means :—

> "any process for making, altering, repairing, ornamenting, finishing, packing, oiling, washing, cleaning, breaking up, demolishing or otherwise treating or adapting any article or substance with a view to its use, sale, transport, delivery or disposal, etc. etc.[3]

1. *Cf.*, *Upāsakadaśāṅga Sūtram*, Chap. VII, S. 181, p. 271.
2. Yudhistira and Munshi, B. L. *Labour Laws*, "The Factory Act of 1948", Sec. 2(m), p. 2,
3. *Idem*,

Keeping in view the above definition of factory and the manufacturing process, we can very well conclude that according to descriptions given in the canonical texts, there did exist 'factories' in ancient India. Of course, they did not contain many of the features of a modern factory or the factory system. The associated merits and demerits of modern factory system were not found at that time.

Salient features

Factories in ancient days were free from modern complexities. There is no mention in the texts about the use of power, big machines, large scale agglomeration, etc. Hence there were no problems like emission of smokes leading to environmental pollution, slum dwellings, major accidents, strikes, lockouts, etc. The production process was simple. Most of the products came out from the cottage of the workers and artisans. Only a few big merchant-employers could afford to invest huge capital and employ labourers in large number to produce articles at a central place of the type of workshops or factories

There is no mention of State industries. Production was done only in private sector. The State was concerned mainly with realisation of taxes.

Industrial Estates

The factories or workshops of the type set up by Saddālaputra near Polasapura[1] can be compared with the modern industrial estates.

In order to boost up the industrial production and encourage small scale industries, the Government now-a-days is setting up industrial centres known as industrial estates, providing to the entrepreneurs the necessary infrastructure for industrial growth. In olden days, as depicted in the texts, this function was discharged in the private sector by the rich entrepreneurs. Though the ancient industrial estates brought personal profit to the entrepreneurs, they were set up with some larger social objectives also, e. g. provision of large scale employment, providing opportunity for self-employment, fulfilment of the essential needs of the people, etc. The philanthropic and religious attitude of the business entrepreneurs might be responsible for thei humanitarian approach towards business and industry.

The infrastructure in ancient days

Development of infrastructure is an important pre-requisite for industrial growth. The important infrastructures for industrial growth are power, finance, transportation facilities, etc. From description given

1. *Cf, Upāsakadaśāṅga Sūtram*, Chap. VII, S. 181, p. 271.

in the canonical texts it seems that there were some regions where a strong infrastructure was laid down for the development of industries. Cities like Kāśi, Kauśāmbī, Śrāvasti, Campā, Vaiśāli were famous centres for production of textile goods. Production was done both in the cottage of the artisans and in the factories. They possessed the necessary resources to manufacture different varieties of consumer goods having a wide market.

Resources

(a) Raw materials

The raw materials play an important part in the growth of industries. It must be easily available and at the same time, should be near the industrial centre, so that there may not be much difficulty in its procurement. The texts indicate that raw materials were brought from nearby places to the workplace and converted into manufactured articles.

As discussed earlier, the developed agriculture, forests, mines, etc. provided enough raw materials to convert them into finished products according to needs of the people. The sugarcane was crushed and processed into 'sarkarā' (sugar). The cotton, wool and silk fibres were used for production of different varieties of cloth. Wine was prepared from different kinds of fruits and from other agricultural products. Timber was used for manufacturing furniture and building materials. The mineral products e. g. iron, copper, etc. were used in the manufacture of various kinds of farm implements and other materials.

(b) Land and shed

Enough land was available to the people at that time. Most of the production was done in the cottage of the workers. Workshops or factories were set up at some suitable place where a large number of people came and worked for wages. Big centres like modern industrial estates were set up by individual entrepreneurs outside the city where they got plenty of land and other factors necessary for the growth of industries. We find the example of Saddālaputra setting up workshops and shed for pottery industry outside the town of Polāsapura.

(c) Water and power

The modern factories require abundant water for cooling plants which run by electrical power. Water is also required for miscellaneous purposes e. g. washing, cleaning, drinking, etc. There is no evidence of electrical power being used in the ancient days and as such large quantity of water was not needed. However, water was available in plenty and it could be easily procured from rivers, ponds and wells.

The main power used in the ancient days was manpower which had to run the machines and do the necessary work in matters of production. The crafts were the products of human labour. Heavy machinery were driven by animals like bullocks. Thus, the simple economy posed no power problem at that time.

(d) Labour

The supply of labour was plantiful. Both the skilled and the unskilled labour were easily available. The handicraft skill was transferred from one generation to another easily as generally, the castes and occupations were inter-related. For example, the sons of a blacksmith became deft in the art of smithy. Similarly there grew families of weavers who became experts in their art from generation to generation.

The unskilled labour (bhayagas) could easily be found on daily wages. They were paid both in cash and in kind. The untrained family members gradually picked up the work and became skilled in the art of their master.

(e) Finance

The artisans generally depended upon their own capital. Sometimes they supplemented their finance by seeking loans from Sāhukārs or Śreṣṭhis who lent money to the artisans on interest.

There were rich entrepreneurs who had enough money to invest in the business enterprises. Upāsakadaśāṅga Sūtram mentions ten such rich and affluent householders (Gāthāpatis) who employed about one-third of their huge wealth in business and industries. The names of Gāthāpatis, their total wealth and investments are as follows :—

Name of Gāthāpatis	Total wealth in Hiraṇya (gold coins)	Investment in business (in Hiraṇya)
1. Ānanda[1]	12 crores	4 crores
2. Cullanīpitā[2]	24 ,,	8 ,,
3. Kāmadeo[3]	18 crores	6 crores
4. Surādeo[4]	18 ,,	6 ,,
5. Culla Śataka[5]	18 ,,	6 ,,
6. Kuṇḍa Kaulika[6]	18 ,,	6 ,,

1. *Cf.*, *Upāsakadaśāṅga Sūtram*, Chap. I, S. 4, p. 9.
2. *Cf.*, *Ibid.*, Chap. III, S. 123, p. 208.
3. *Cf.*, *Ibid.*, Chap. II, S. 90, p. 160.
4. *Cf.*, *Ibid.*, Chap. IV, S. 148, p. 233.
5. *Cf.*, *Ibid.*, Chap. V, S. 155, p. 243.
6. *Cf.*, *Ibid.*, Chap. VI, S. 163, p. 251.

7.	Saddālaputra[1]	3	,,	1	,,
8.	Mahā Śataka[2] and Rewati	24	,,	8	,,
9.	Nandinīpitā[3]	12	,,	4	,,
10.	Sālihīpiyā[4]	12	,,	4	,,

Other references in the texts also show that rich businessmen invested a large amount of their wealth in business.

(f) Transportation facilities

There is reference of bullock driven carts in the texts for transporting goods from one place to another. This means of transport was used both for the purpose of bringing raw materials to the production centre as well as for distributing the final products to different places. Besides bullock carts the camels, horses, oxes, etc. were also used for carrying loads to different places.[5]

From the foregoing discussion we can safely assume that ample facilities were available for setting up industries. The State did not interfere in the productive activities and as such we find the entrepreneurs taking initiative in productive pursuits.

Localisation of industries

It is difficult to say with exactness about the extent of localisation of industries at different centres, but the texts do indicate that some industries tended to be set up at places where the different factors of production were easily available. Thus, where a particular raw material was available alongwith other requisities, industries were set up in that region. In the absence of highly developed means of transport, nearness to raw material must have played an important role in the establishment of industries.

We find the names of important towns which were noted for certain crafts and industries Vārāṇasi, Campā, Polāsapura, Śrāvastī, Malaya were some of such centres famous for producing quality products.

This shows that cities and towns in ancient days earned their name and fame on account of their craft and industry also. The "Momentum of an early start" must have given a boost to the centres to develop and in course of time their products acquired a goodwill.

1. *Cf.*, *Ibid.*, Chap. VII, S. 179, p. 270.
2. *Cf*, *Ibid.*, Chap. VIII, S. 228, p. 333.
3. *Cf.*, *Ibid.*, Chap. IX, S. 265, p. 370.
4. *Cf.*, *Ibid.*, Chap. X, S, 269, p. 373.
5. *Cf.*, Motīcandra, *Sārthavāha*, p. 163.

The 72 arts depicting industries

Jñātādharmakathāṅga Sūtram[1] mentions 72 arts which give an idea of various industries developed in those days. These 72 arts are as follows :—

1. Lehaṁ	Lekha kalā	art of writing
2. Gaṇiyaṁ	Gaṇita kalā	arithmetic
3. Rūvaṁ	Rūpa kalā	sculpture, painting and embroidery
4. Naṭṭaṁ	Nātya kalā	acting and dancing
5. Gīyaṁ	Gīta kalā	art of vocal music
6. Vāiya	Vāditra kalā	instrumental music
7. Sargayaṁ	Swaragata kalā	knowledge of different notes in music
8. Pokharagayaṁ	Puṣkaragata kalā	knowledge of instrumental music (drum)
9. Samatālaṁ	Samatāla kalā	precise idea of 'tāla' in music
10. Jūyaṁ	Dyūta kalā	art of gambling
11. Jaṇavāyaṁ	Janavāda kalā	art of conversation and debating
12. Pāsayaṁ	Pāśaka kalā	skill in dice
13. Aṭṭhāvayaṁ	Asṭāpada kalā	skill in playing 'chaupaḍa' game
14. Porekavvaṁ	Puraḥkavya kalā	Verse making
15. Dagamaṭṭiyam	Dagamṛttikā kalā	pottery
16. Annavihim	Annavidhi kalā	agriculture
17. Pāna vihiṁ	Pāna vidhi kalā	use of beverages
18. Vattha vihiṁ	Vastra vidhi kalā	cloth making and use of cloths
19. Vileyaṇa vihiṁ	Vilepana vidhi kalā	use of toilets
20. Ābharaṇa vihiṁ	Ābharaṇa vidhi kalā	manufacturing and use of ornaments
21. Sayaṇa vihiṁ	Śayana vidhi kalā	manufacture and use of various materials of bed room.
22. Ajjaṁ	Āryā kalā	art of composing 'Āryā' verse
23. Paheliyaṁ	Prahelikā	composition of riddles
24. Māgahiyaṁ	Māgadhikā	composing poetry in Māgadhī-Prākṛta language
25. Gāhaṁ	Gāthā	composing poetry in Prākṛta Gāthā
26. Gīyaṁ	Gītikā	ballad making
27. Siloyaṁ	Śloka	composing verses in Saṁskṛta

1. *Jñātādharmakathāṅga Sūtram*, Vol. I, Chap. I, S. 20, p. 254.

28. Hiraṇṇa juttiṁ	Hiraṇya yukti	silver work
29. Suvaṇṇa juttiṁ	Suvarṇa yukti	gold work
30. Cuṇṇa juttiṁ	Cūrṇa yukti	making and mixing powder of herbs and plants
31. Taruṇī padi-kammaṁ	Taruṇi parikarma	art of beautifying young women
32. Itthi lakhaṇaṁ	Istrī lakṣaṇa	art of analysing women's traits
33. Purisa ,,	Puruṣa ,,	art of analysing men's traits
34. Haya ,,	Haya ,,	art of knowing horses' characteristics
35. Gaya ,,	Gaja ,,	art of knowing elephants' characteristics
36. Goṇa ,,	Go ,,	art of knowing about cows and oxes
37. Kukkuḍa ,,	Kukkuḍa ,,	art of knowing about cocks and hens
38. Chatta ,,	Chatra ,,	idea of canopies
39. Daṁḍa ,,	Daṇḍa ,,	knowledge of poles and sticks (probably for measurement)
40. Asi lakhaṇaṁ	Asi lakṣaṇa	knowledge of swords (weapons)
41. Maṇi lakhanaṁ	Maṇi laksaṇa	knowledge of jems
42. Kāgaṇī ,,	Kākanī ,,	knowledge of special type of jem
43. Vātthu vijjaṁ	Vāstu vidyā	art of architecture
44. Khandhāvāra-māṇaṁ	Skandhāvāramāna	fixing the strength of army
45. Nagaramāṇaṁ	Nagara māna	town planning
46. Cāraṁ	Cāra	astronomy
47. Paḍicāraṁ	Praticāra	astrology
48. Vūhaṁ	Vyūha	formation of army in war
49. Paḍi vūhaṁ	Prativyūha	art of foiling the strategy of enemy
50. Cakka vūhaṁ	Cākra vyūha	formation of army in a circle
51. Garūla vūhaṁ	Garūḍa vyūha	forming eagle array in war
52. Sagaḍa vūhaṁ	Śakaṭa vyūha	art of arranging vehicles in war or forming vehicle array in war
53. Juddhaṁ	Yuddha	art of fighting
54. Niyuddhaṁ	Niyuddha	wrestling
55. Juddhāi juddhaṁ	Yuddhāti yuddhaṁ	art of fighting fiercely using swords, etc.

56. Aṭṭhi juddhaṁ	Asthi yuddha	fighting with weapons made of bones
57. Muṭṭhi juddhaṁ	Musṭi yuddha	art of fighting with fists (boxing)
58. Bāhu juddhaṁ	Bāhu yuddha	art of fighting with limbs
59. Layā juddhaṁ	Latā yuddha	clapsed fighting
60. Esatthaṁ	Iṣu śastra	art of using arrows, etc.
61. Charuppa vāya	Khaḍaga prapāta	attacking with sword
62. Dhanuvveyaṁ	Dhanurveda	archery
63. Hiraṇṇa pāgam	Hiraṇya pāka	preparing drugs and chemicals from silver
64. Suvaṇṇa pāgam	Suvarṇa pāka	preparing drugs and chemicals from gold
65. Sutta kheḍam	Sutra khela	playing with threads
66. Vaṭṭa kheḍam	Vṛtta khela	playing in circular tracks
67. Nāliā kheḍam	Nālikā khela	playing foul game with dices
68. Pattacchejjam	Pattraccheda	leaf work
69. Kaḍacchejjam	Kaṭaccheda	wood work
70. Sajjivam	Sajīva	science dealing with living (organic) objects
71. Nijjivam	Nirjīva	Science dealing with lifeless (inorganic) objects
72. Sauṇa rūyam	Śakuna ruta	identifying good or bad omen from chirping of birds

The description of the above-mentioned 72 arts is a clear testimony to the fact that industry was in a highly developed state. People were skilful and knowledge was transmitted from one generation to the other.

Description of various industries

After the foregoing discussions, we now come to the description of various industries developed in those days as depicted in the Jaina canonical literature under the following heads :—

1. Textiles—Cotton, silk, wool, hemp, linen, etc.,
2. Iron and Steel,
3. Crafts based on non-ferrous metals and precious stones—copper, gold and silver materials,
4. Industry based on agricultural and horticultural products—sugar industry, fruit preservation, wine, etc.
5. Crafts based on animal products—leather, ivory, etc.
6. Crafts based on forest products—furniture, vehicles.
7. Other industries—pottery, building, bamboo woık, etc.

1. Textiles

The textile industry was the most important industry of the time. There were various textile fabrics such as cotton (kappāsa), silk (kosseyam), wool (kambalaṁ), hemp (saṇaṁ), linen (khomaṁ), etc. Cloths of various varieties and qualities were manufactured from these threads. Cloth making (vattha vihiṁ) was one of the 72 arts mentioned in the texts.

Many beautiful and expensive cloths were manufactured in those days which were forbidden for the use of Jaina monks and nuns. Cloths made of goats' hair, blue cotton, of Bengal cotton, of Paṭṭa, Malaya fibres, muslin, silk, Desaraga, Amila, Gaggala, Phāliya, Kāyaha, etc. were not to be used by them.[1] Again cloths made with gold, interwoven with gold, set with gold, embroidered with gold, highly ornamented plaids, etc. were forbidden for the monks and nuns.[2]

The Jaina monks were allowed to wear five varieties of coar clothes which were comparatively cheap. They were as follows :—

(i) Jamgiya

(ii) Bhaṁgiya

(iii) Sāṇiya or Saṇaṁ

(iv) Pottaga and

(v) Tirīḍa paṭṭa[3]

(i) Jaṁgiya

It was a kind of cloth manufactured from the hairs of the animals (jaṅgama or trasa i. e. movable beings).[4] There were five kinds of jaṁgiya cloths whose description has been given in Niśitha Cūrṇi[5] :—

(a)	Uṇṇiya	It was a kind of cloth manufactured from the sheep's wool.
(b)	Uṭṭiya	This was manufactured from the camels' hair.
(c)	Miyalomiya	Cloth manufactured from deer's hair was known as Miyalomiya.
(d)	Kutava	It was manufactured from fine variety of hairs.
(e)	Kiṭṭa	Cloth manufactured from the remaining inferior portions of the hair was known as Kiṭṭa.

1. *Cf.*, Jacobi, H., *op. cit.*, Vol. XXII, p. 158.
2. *Cf.*, *Idem.*
3. *Cf.*, *Bṛhat Kalpa Sūtram*, Vol. IV, S. 24, p. 1017.
4. *Cf.*, *Idem.*
5. *Cf.*, *Niśītha Sūtram*, Vol. II, pp. 57, 223 and 399.

(ii) Bhaṁgiya

It was cloth manufactured from the fibres of the linseed plant. It seems to be a kind of cloth manufactured from the 'bhāga' tree which is still found in Kumāon district in U. P.

(iii) Saṇaṁ

It was a cloth prepared from the fibres of hemp. It was a dark red cloth mostly used by the bhikkhus.

(iv) Pottaga[1]

Pottaya or pottaga was cotton cloth made from the fibres of the cotton flower.

(v) Tirīḍa paṭṭa[2]

It was a cloth manufactured from the bark of the 'tirīḍa' tree.

Though the above five varieties of cloth were allowed to the Jaina monks for their clothing, they were however, advised to prefer the cotton cloth (pottaya or pottaga). The other types of cloth could be taken when the cotton cloth was not easily available.

Cotton textiles

Among the different textile fibres of the time, cotton was in the largest use The cotton was first of all carded and the seeds were removed out of it (piñjita)[3]. After the cotton was cleaned (rūya or rūi), spools (pelū) were prepared far spinning the yarn. Cotton yarn (kappāsika suttaṁ) of different varieties were made. Spinning and weaving were separate industries.[4]

Weaving was developed and was a famous industry of the time. Weaving sheds (tantuvāyaśalā) are mentioned in the texts.[5] Various kinds of cloths were mauufactured. Cities like Kāśi, Śrāvastī, Kauśāmbī, Rājagṛha, Campā, Vaiśālī, Mithila, etc. manufactured plenty of textile goods of high quality both for domestic as well as for foreign markets.[6]

Cotton cloths of common as well as of costly varieties were manufactured. The common variety of cotton cloth as discussed before was

1. *Cf.*, *Bṛhat Kalpa Sūtram*, Vol. IV, V. 3663, p. 1018.
2. *Cf.*, *Idem.*
3. *Cf.*, Sen, M., *op. cit.*, p. 159.
4. Cf., Bose, A. N., *Social and Rural Economy of Northern India*, p. 244.
5. *Cf.*, *Bhagavati Sūtra*, Vol III, Chap 15, S. 541, p 661.
6. *Cf.*, Jain, K. C., *op. cit.*, p. 285.

'potta' or 'pottaga' which was allowed to be used by the Jaina monks also. There were large varieties of costly cloths manufactured with fine variety of yarns. Jñātādharmakathāṅga Sūtram,[1] Niśītha Cūrṇi,[2] Ācārāṅga,[3] etc. refer to the following important varieties of cloths :—

(a) Khomma	It was a type of cloth manufactured from fine cotton. Some Jaina texts also mention it as linen cloth. It was finer than 'potta' or 'pottaga'.
(b) Kāyaha	It was a type of cloth manufactured from blue cotton in the Kāya country (Eastern Mālwā). It was a sort of dyed cloth.
(c) Dugulla	It was a cloth manufactured from the fibres of the 'dugulla' tree. According to commentary on Ācārāṅga, it was a cloth manufactured from cotton grown in the Gauḍa country.
(d) Aṁsuga	It was manufactured from the inner bark of the 'dugulla' tree. Hence it must have been a finer variety of cloth than 'dugulla'. It was a soft, fine and shining cloth.
(e) Phādiya	It was a cloth fine and transparent and must have been very costly.

Towels

Towels were also manufactured in those days. There is reference of a super fine, soft, delicate and coloured fur towel which was used in the bath of a poor man at the command of Sāgaradutta sārthavāha[4] Another reference of similar towel is found when 'Meghakumāra' was being bathed.[5]

From the description given above, it is evident that cotton industry was in a flourishing state in ancient India. Production of large variety of cotton cloth indicates specialisation in the industry as well as technical perfection. This also reflects the socio-economic condition of the people of the time.

Silk Textiles

There is mention of cloth manufactured from the saliva of insects which fell upon the leaves of the 'malaya' plants.[6] Apparently these

1. *Cf.*, *Jñātādharma Kathāṅga Sūtram*, Vol- I, pp. 83 and 169.
2. *Cf.*, *Niśītha Sūtram*, Vol. II, p. 399.
3. *Cf.*, Jacobi, H., *op. cit.*, Vol. XXII, (*Ācārāṅga*), p. 158.
4. *Cf.*, *Jñātādharmakathāṅga Sūtram*, Vol. III, Chap. XVI, S. 11, p. 218.
5. *Cf.*, *Ibid*, Vol. I, Chap. 1, S. 33, p. 390.
6. *Cf.*, *Niśītha Sūtram*, Vol. II, V. 10, p. 399.

insects were silk worms which produce silk fibres (kosseyam). Some of the cloths manufactured from silk have been mentioned in the texts which are as follows :—

(a)	Malaya (Mayala)	It was cloth manufactured from silk fibres in the country of Malaya.
(b)	Cīṇaṁsuya[1]	It was silk cloth manufactured from the 'kośikā' or 'kośikāra' insects. It was white and delicate like China-silk.
(c)	Vādaya	It was silk cloth (kosseyam or kosejja) and was called 'ṭasara' in the regional language. It was also very costly.

Development of the silk industry in ancient India shows the affluence of the people as also the knowledge of different fibres and the technique of their utilisation.

Woollen textiles

The Jaina canonical texts mention cloth made of animals' hair and fur. The word 'kambala' has been used to denote all types of woollen cloths—blankets as well as garments. The various cloths mentioned are as follows :—

(a)	Uṇṇiya	As already discussed, this cloth was manufactured from the sheep's wool and was used as a common cloth both by the monks and the general people.
(b)	Rallaga[2]	It was a wollen cloth used as a wrapper (pāuraṇa). This wool was fine and soft. It could be easily spun and woven.
(c)	Navataka[3]	Cloth made of special type of wool was known as 'Navataka' or 'Navataya.'

Hemp (Saṇaṁ) textiles

Sanaṁ[4] was hemp cloth prepared from the fibres of hemp. The monks were advised to use hemp clothes as a substitute to cotton clothes. It seems that cloths made from hemp were widely used.

1. *Cf.*, *Bṛhat Kalpa Sūtram*, Vol. IV, V. 3662, p. 1018.
2. *Cf.*, *Niśītha Sūtram*, Vol. III, V. 3025, p. 102.
3. *Cf.*, *Jñātādharmakathāṅga Sūtram*, Vol. I, S. 6, p. 83
4. *Cf.*, *Niśītha Sūtram*, Vol. II, V. 761, p. 57.

Other textiles

Besides the above mentioned fibres, other fibres such as bark fibres were used to manufacture cloth. Paṭṭunna[1] was a cloth made from bark-fibres. Skins of deer (miga), tiger and panther were used for making cloths viz. 'Uṭṭha', 'Veggha' and 'Vivaggha' respectively.[2] 'Pesā' is explained as cloth made from the skin of 'pesā'[3] animal (found in Sindh).

Dyeing and bleaching

From descriptions given in different texts, we come to know that people used cloths of different colours. Many colours for cloths are mentioned, e. g. black, blue, red, golden-yellow, white, etc.[4] Cloths such as towels were dyed in saffron.[5] Proper colours were selected in order to suit the different seasons. Cloths dyed in red colour (kāṣāya) were liked in summer while the saffron dyed dresses were considered appropriate for the rainy season.[6] This shows that dyeing industry was fairly developed.

There were traditional classes of people (rajaga) who were skilled in the art of washing and bleaching cloths. Soap-nut (kataka-phala), soda (khârajoga), etc. were used for washing The cloths were starched and calendered after washing. This shows that people in that age tried to give a fine finish to the cloths, so that these may give a fine look.

Costly cloths

There are also references of costly cloths being produced in ancient days. Yarns (sutta) were dyed in solution of gold and costly cloth like 'kaṇagapaṭṭam',[7] were manufactured. 'Kaṇagayaka'[8] was a cloth having its border woven with golden thread. 'Kaṇagakhaciya'[9] was another kind of cloth embroidered with golden threads which must have been like brocade. 'Kanagaphulliya' is mentioned as a cloth which had designs made with gold by applying a type of wax or some other

1. *Cf.*, *Ibid*, Vol II, S. 11, p. 399.
2. *Cf.*, *Niśītha Sutram*, Vol. II, V. 12, p. 400
3. *Cf.*, Jacobi, H., *op. cit.*, Vol. XXII, p. 158.
4. *Cf.*, *Niśītha Sūtram*, Vol. II, V. 954, p. 94.
5. *Cf.*, *Jñātādharmakathāṅga Sūtram*, Vol. I, S. 10, p. 129.
6. *Cf.*, *Niśītha Sūtram*, Vol. II, V. 952, p. 94.
7. *Cf.*, *Ibid.*, Vol II, S. 12, p. 400.
8. *Cf.*, *Idem.*
9. *Cf.*, Jacobi, H., *op. cit.*, Vol. XXII, (*Ācārāṅga*), p. 158.

sticky (adhesive) substance. This was the art of 'tinsal printing' which has been corroborated by Dr. Moticandra.[1]

Printed cloth

'Ābharaṇa' was a printed cloth having pattern of leaves (patrakādi)[2] over it. Different designs bearing leaves, moon, bell, pearl, etc. were printed on the cloths.

From the above it clearly appears that the textile industry was fairly developed in India. There were persons who were skilled in different fields of cloth manufacture. They could produce printed cloths depicting various designs and art over them.

Localisation

The cotton textile industry was wide-spread and was found in almost every region, yet some of the places were famous for its manufacture. These places were known as big cloth producing centres (vahuvattha-desa).[3] Mahissara[4] (Mahiṣā or Mahiṣmatī) has been mentioned as one of such centres. The famous centres mentioned are Madurā, Kaliṅga, Kāśi, Vanga, Vatsa, Sindhu, Mālwā, etc.

It can be seen from the above that this industry was not only highly developed in ancient India, but it was also founded on sound lines taking advantage of centralised production.

Garment industry

Alongwith the cloth manufacturing industry the garment industry also existed. We find reference of many types of garments for ladies and gents and also for the monks and the common people. The stitched garments like the 'kañcuka', shorts, tunics, etc. were used. There was a special class of tailors known as 'tuṇṇaga'[5] who specialised in darning. They were also adept in the art of sewing (sivvaṇa). Various types of stitches (sivvaṇa) have also been mentioned e. g. 'gaggara', 'ḍaṁḍi', 'jālaga', 'gomuttigā', 'dukkhilā', 'egakhilā', etc.[6] 'Gaggara' stitch was used by the nuns for their dresses while the householders used the 'ḍaṁḍi' type of stitch. 'Gomuttigā' was an ordinary type of stitching. 'Dukkhilā' meant double stitching while 'egakhilā' referred to single stitching.

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1. *Cf.*, Moticandra, *Prācīna Bhāratiya Veṣabhūṣā*, pp. 152-153.
2. *Cf.*, *Niśītha Sūtram*, Vol II, V. 12, p. 400.
3. *Cf.*, *Ibid.*, Vol III, V. 5012, p. 569
4. *Cf.*, *Idem.*
5. *Cf.*, *Niśītha Sutram*, Vol. II, V. 500, p. 3.
6. *Cf.*, *Ibid.*, Vol. II, V. 782, p. 60.

People generally used different clothes on different occasions. The Niśītha Cūrṇi mentions 'Niyaṁsaṇaṁ' as the garments that were worn daily at home during day or night.[1] The 'majjaṇiyaṁ' garments were worn after taking bath and for visiting the temple.[2] Generally these dresses were white. 'Chaṇūsaviyam' were fine dresses meant to attend parties or functions.[3] 'Rājaddāriyam' garments were special dresses to be put on while visiting the kings and nobles.[4]

Use of different kinds of clothes on different occasions depicts not only the affluence, but also skill in the society in the good old days. It further depicts the stage of the development the society reached at that time. Not only that but it also shows that certain section of the people were very fastidious about clothes and dresses in ancient India. It also means that the economy was geared to produce and provide various designs of clothes suiting to the taste and needs of the people.

Price of cloths

Cloths were also classified according to their prices. 'Jahaṇṇa'[5] was the cheapest variety costing up to eighteen 'rūvagas'.[6] 'Ukkosa' was the costliest—its price being more than a million 'rūvagas'. 'Majjhima' were cloths of medium category.[7] The monks were not permitted to use costly cloths. They were punished for putting on cloths costing more than 18 rūvagas. In other words, they could use only 'Jahaṇṇa' (cheapest) type of cloths.

The price differentials of clothes and the social order on the use of cloths clearly testify to the highly developed state of the textile industry and the fine trim in which the people were adept to the social customs. Moreover, fabrics of different varieties and qualities made of cotton, silk, wool and other fibres fulfilled the needs of the people of different tastes and strata.

2. Iron and Steel Industry

In modern age the Iron and steel industry occupies a key position in the industrial sector. Most of the developed countries of the world are big producers of iron and steel. Huge factories have been set up where latest technology is used for smelting iron and manufacturing steel

1. *Cf.*, *Ibid*, Vol. III, V 99, p. 566.
2. *Cf.*, *Idem.*
3. *Cf.*, *Idem.*
4. *Cf.*, *Idem.*
5. *Cf.*, *Nisītha Sūtram*, Vol. II, V. 957, p. 95.
6. *Cf.*, *Infra.*, Chapter V, Silver coins.
7. *Cf.*, *Nisītha Sūtram*, Vol. II, V. 957, p. 95

of different varieties. This industry provides a big base for many other important industry e. g. motor car, bicycle, sewing machine, locomotive, machine tools, etc.

Coming to the ancient India we do not find big factories rolling out iron and steel in huge quantity, nor do we get reference of sophisticated iron and steel products in those days. The kingpin of this industry was the blacksmith (lohakāra or kammāra)[1] who occupied an important position among the artisans. We find mention of smith-shops (kammārasālā or aggikamma).[2]

The 'Bhagavati Sūtram' presents a picture of the working process of blacksmithy. Iron furnaces (ayakoṭṭha or bhaṭṭhā) were filled with iron ore and this was handled by a man with tongs (saṇḍasī). It was then taken out and placed on the anvil (adhikaraṇī) to be hammered with a mallet (muṭṭhie). It was heated again and again with the help of a leather bellowing bag (cammeṭṭha), malleted, cut, dipped into water to get cooled and given a final shape. The blacksmith knew the art of tempering the iron piece and bring the steel element to its surface layer.[3]

Iron products

The canonical texts mention various kinds of iron products. Many agricultural implements viz. plough (hala), iron hoes, axe, sickles, (asīya or dātra), etc. were supplied to the peasants. The blacksmith made different types of weapons for warfare such as swords (khagga), shields, daggers (muṭṭhiya), spears, lances (kunta), discus (cakka), javelin (tomara), etc.[4] Articles of domestic use like knives. needles (sui),[5] blades, hooks, nails, rods, nail-cutters (nakkhaccaṇi), chisels, bowls, rings, spoons, utensils,[6] etc. were manufactured. On the use of the above mentioned various kinds of articles which have been mentioned in the texts Herman Jacobi made a significant remark,

> "The following verses (of Sūtrakṛtāṅga) are interesting as they afford us a glimpse of a Hindu household some 2000 years ago. We find here a curious list of domestic furniture and other things of common use."[7]

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1. *Cf.*, *Nisītha Sūtram*, Vol. I, V. 21?, p. 79.
2. *Cf.*, Jain, K. C., *op. cit.*, p. 287.
3. *Cf.*, *Bhagavati Sūtram*, Vol. XII, Chap. I. S. 3, p. 11.
4. *Cf.*, *Praśna Vyākaraṇa Sūtrā*, Chap. III, S. 11, p. 245.
5. *Cf.*, *Sūtrakṛtāṅga Sūtram*, Chap. IV, V. 12, p. 79.
6. *Cf.*, *Bhagavati Sūtram*, Vol. IX, Chap. IX, S. 1., p. 315.
7. *Cf.*, Jacobi, H., *op. cit.*, Vol. XLV, p. 276.

In this way we can conclude that the mention of the various kinds of iron implements and instruments like plough, iron hoes, axe, sickles, etc. portrays the developed stage of agriculture and related industry; knives, needles, hooks, nails, rods, nail-cutters, chisels, bowls, rings, spoons, utentils, etc. of the consumer goods industry and swords, shields, daggers, spears, lances, etc. of the weapon industry. It it true that we do not get any evidence of sophisticated engineering goods, but all the same the industry supplied goods and wares of daily use.

3. Crafts based on non-ferrous metals and precious stones

Besides the blacksmith there were other artisans e. g. goldsmiths, jewellers, etc. who were deft in producing various kinds of articles from copper, gold, silver, precious stones, etc.

Copper articles

Copper was used for manufacturing utensils,[1] ornaments, vessels, vases, etc. of various kinds. Artisans were famous for their outstanding and exquisite workmanship. Images were cast in different metals including copper and bronze. Copper plates were used for inscribing messages. 'Candālaga' (cistern) is mentioned as a copper vessel.[2]

Gold and silver articles

The goldsmith occupied an important position among the artisans. The large use of ornaments by people gave fillip to goldsmithy. There are many references of gold ornaments in the texts. The kings, nobles and the rich people used gold ornaments of various kinds and designs. The ladies of the royal and rich aristocratic families put on various ornaments to beautify the different parts of their body from the head to the ankle. The male persons, specially the kings and princes also used to adorn themselves with costly ornaments of various kinds. In Jñātādharmakathānga Sūtram we find 'Meghakumāra' being adorned with ornaments like 'hāra' (necklace of nine strings), 'egāvali' (necklace of one string), 'muttāvali' (necklace of pearl), 'kaṇagāvali' (gold necklace), 'rayaṇāvali' (necklace of jewels), 'pālamba' (covering of the neck), 'pāya pālamba' (long chain upto feet), 'kaḍagāī' (bangles), 'tuṇḍiyāī' (armlets), 'keūrāi' (bracelet), 'aṅgayāī', (a type of bracelet), 'dasa muddiyāna' (ten finger rings), 'kaḍi suttaya' (ornament for waist), 'kuṇḍalāi' (ear-rings), 'cuḍāmaṇi' (gold ornament for head) and 'mauḍa' (crown).[3] Such accounts of ornaments are found in various other texts

1. *Cf., Bhagavati Sūtram*, Vol. IX, Chap. IX, S. 1. p. 315.
2. *Cf., Sūtrakṛtāṅga Sūtram* Chap. IV, S. 13, p. 80.
3. *Cf., Jñātādharmakathāṅga Sūtram*, Vol. I, Chap. I, S. 33, p. 391.

also[1] In Upāsakadaśāṅga Sūtram we find Ānanda, a rich Gāthāpati of Vaṇiyagāma using costly ornaments who later on, taking a vow before Lord Mahāvīra renounced all the ornaments except a pair of ear-rings and the finger rings.[2] Even the elephants and horses were adorned with ornaments of silver, gold and jewels. The chariots were decorated with golden banners (suvaṇṇa dhvaja) and other gold work.[3]

The goldsmiths were generally rich and affluent persons. Except a few of them, who practised unfair deals,[4] they commanded good position and respect in the society.

Precious stones

The goldsmiths not only used gold for making ornaments but they were also experts in studding the ornaments with precious stones like diamonds, pearls, corals, rubies, emeralds, etc. Most of the jems and precious stones found in India[5] were used by the goldsmiths for making ornaments (including crowns) and decorating royal palaces, chariots, etc. The art of skilful cutting of precious stones and giving them various shapes was known to them. 'Naṅda' has been mentioned as a rich jeweller (maṇikāra) of 'Rāyagiha'.[6]

The description of various types of ornaments and gold articles given in the texts leads us to conclude that the goldsmiths and jewellers were very skilled in their art. They must have fully learnt the properties of copper, silver, gold, and precious jems and also of the chemicals and other substances used for preparing the ornaments. The description of different kinds of ornaments and jewellery leaves no one in doubt about the developed state of smithy work and the affluence of the society.

4. Industries based on agricultural and horticultural products

In ancient India we find some industry which were based on agricultural products e. g. sugar industry, fruit juice and syrups, wine distillation, etc. We may also discuss drugs, chemicals, cosmetics and perfumery under this head.

Sugar industry

There is no mention in the canonical texts about the production of sugar of the modern kind in big factories but there were sheds for pressing

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1. *Cf.*, *Vyākhyāprajñapti*, part XI, Chap. XI, S. 430, p. 1002.
2. *Cf*, *Upāsakadaśāṅga Sūtram*, Chap I, S. 34, p. 37.
3. *Cf.*, Jain, K. C., *op. cit.*, p. 289.
4. *Cf.*, *Niśītha Sūtram*, Vol. III, p. 269.
5. *Supra*, p. 33.
6. *Cf.*, *Jñātādharmakathāṅga Sūtram*, Vol. II, Chap. XIII, S. 2, p. 735.

sugarcane (jaṁta śālā)[1] where with the help of juice-extracting machines (ikkhu-jaṁta) sugarcane juice was extracted and products like 'guḍa', 'phāṇita' or 'phaṇiyaṁ'[2] (treacle), 'khaṇḍa' (unrefined sugar), 'sarkarā' (crystal sugar) and 'macchaṇḍiya' (sugar candy)[3], etc. were made. Two varieties of 'guḍa' have been mentioned, (i) chiḍaguḍa and (ii) khaḍahaḍa[4]. These sugar products were used for direct consumption as well as for preparing various kinds of sweets, e. g., laḍḍugas, modagas, pūḍalagas, moraṇḍaga, parpaṭi, pāyasa, etc.

Fruit preservation and fruit juice

Abundant production of various kinds of fruits in ancient India gave fillip to fruit preservation (by drying them up) and preparation of a large quantity of fruit juices and syrups. Syrups were prepared from the juice of pomegranate (dāḍima), grapes (drākṣā), mango (āmra), tamarind (cincā), and so forth.[5] The grape-juice (drāksā pāṇaka) was treated as the best. It was customary to offer fruit juices and syrups to visitors.

This indicates that syrup-making was an important business in those days. Large use of fruits and their syrup is a pointer of good taste of the people. This also depicts the affluence of the people and the prosperity of the country.

Liquor distilling

Wines and other intoxicating liquors were manufactured and used on a large scale. 'Majja' or 'Madya' (wines) were easily available in the market. The wine shops were termed as 'rasāvaṇa', 'majjāvaṇa'[6] or 'pāṇabhūmi'. Drinking-booths were distinguished by sign-boards.

Many varieties of wines were produced viz. candraprabhā, manisilākā, varasīdhu, varavāruṇi, āsava, madhu, merak, riṣṭābhā, jambūphalakalikā, kharjūrasāra, ṣatāu, ikṣurasa, etc.[7] Wine prepared from grapes was called 'madhu'. The wine known as 'satāu' was very strong and it could be easily diluted a hundred times without losing its value. It is mentioned that the queen, 'Cellanā' spread this wine over her hairs and visited king 'Seṇiya' in the prison where it was used by the king for

1. *Supra*, p. 24.
2. *Cf.*, *Piṇḍa Niryukti*, S. 625, p. 168.
3. *Cf.*, *Niśītha Sūtram*, Vol. III, p. 295.
4. *Cf.*, *Ibid.*, Vol. II, p. 238.
5. *Cf.*, *Niśītha Sūtram*, Vol. II, S. 43, p. 123.
6. *Cf.*, *Ibid*, Vol. II, V. 1158, p. 136.
7. *Cf.*, Jain, J. C., *op. cit.*, p. 125.

his drink.[1] Liquors were also prepared from rice, bamboo shoots, palm fruits and flowers. Surā (or paiṣṭhī) was manufactured by fermenting boiled rice, barley, blackpepper, lemon-juice, ginger, etc. and by distilling their juice.[2]

As a rule the Jaina monks and householders were prohibited from drinking wine. The Jaina Sūtras disallow the monks from visiting festive gatherings where people took wine. But, it seems the society had not imposed any restriction on the use of wine and this denotes its widespread use.

Drugs and chemicals

There were small scale industries of drugs and chemicals too. Various kinds of drugs were prepared from roots, leaves and fruits. The science of medicine was highly developed. Many kinds of oil (tella), pills (gulikā), powders (cuṇṇa), etc. were prepared by the physicians and prescribed in various ailments (roga or vyādhi).[3] The oils like śatapāka and sahasra pāka were very costly.[4] It required a long and arduous process in their preparation in as much as the medical drugs were boiled a hundred or a thousand times to bring full efficacy. 'Hamsatella' was the oil extracted out of the body of a swan to cure certain diseases. Pills and powders were prepared from various herbs and plants. Ointments were prepared for healing up the wounds. The above description tells us about the advancements made by medical science in those days.

Chemicals were produced for various purposes. Some dyes and chemicals were used in cotton and other manufactures. Some were used in preparing medicines and some for the domestic use.

Cosmetics and perfumery

The canonical texts give ample description of the use of cosmetics and perfumery by the kings, princes, nobles, courtesans, ladies and the rich people. The kings and the princes have always been shown using various types of perfumed oils, powders[5] and pastes.[6] The ladies made

1. *Cf*, *Idem.*
2. *Cf.*, *Ibid*, p. 126.
3. *Cf.*, *Jñātādharmakathāṅga Sūtram*, Vot. III, Chap. XVI, p. 175. (reference of 16 ailments).
4. *Cf.*, *Niśītha Sūtram*, Vol. I, V. 452, p. 153.
5. *Cf.*, *Jñātādharmākathāṅga Sūtram*, Vol. I, Chap. I, S. 13, p. 390. (Megha Kumāra is anointed with sandal paste after he took his bath)
6. *Cf.*, *Ibid.*, Vol. III, Chap. XVI, S. 11, pp. 223-224 (referen e of a poor man of the street being bathed and anointed with perfumed pastes for being married to the daughter of Seṭha Sāgaradutta)

liberal use of toilet articles to enrich their beauty. As such, scents, perfumed oil and cosmetics in good quantity were produced in those days. The fragrant pastes were prepared from sandalwood (candana), musk (migaḍa), camphor (kappūra), saffron (kuṁkuma), etc.[1]

Perfumes and cosmetics were sold in the market and such shops were known as 'gandhiyasāla' (perfumer's shop). The perfumer (gandhaka) used to manufacture different kinds of perfumes from various materials. Their manufacture tells us about the advancement made by chemical science at that time.

5. Crafts based on animal products

The ancient society comprised of many craftsmen some of whom carried on their crafts on raw materials procured from animal world. The main crafts to be discussed under this head are leather and ivory-work.

Leather industry

The craft seems to be in a developed state. The 'cammakāra' or 'padakāra' (cobbler) manufactured various qualities of shoes, leather bags, musical instruments like drums (mṛdanga), bellowing bags, sheaths and so on. Hides and skins of cows, buffalloes, goats, sheep and other animals were procured for manufacturing different kind of articles.

Shoes

Shoes formed a necessary item of the dress of the people. Different varieties of shoes e. g. 'ardha khallaka'[2] (shoes covering half the feet), 'samasta khallaka'[3] (shoes covering the entire feet), 'khapusā'[4] (shoes reaching up to the knees), 'kosaga'[5] (shoes covering the toes only to protect them from getting struck against a stone or thorn) were manufactured. Shoes were made with the skins of cow, squirrel, lion, tiger, etc. These were dyed in different colours e. g. black, red, brown orange, etc.

The Jaina monks were not allowed to wear shoes as it entailed killing of the animals but under very special circumstances such as diseases, tenderness of feet, fear of wild animals, etc., shoes of certain kinds were permitted.[6]

1. *Cf.*, Sen, M., *op. cit.*, p. 179.
2. *Cf*, *Nisītha Sūtram*, Vol. II, S. 917-918, p. 87.
3. *Cf.*, *Idem.*
4. *Cf.*, *Idem.*
5. *Cf.*, *Idem.*
6. *Cf.*, Sen, M., *op. cit.*, p. 171.

The description of leather products and their wide-spread use again tells us about the prosperity of the people.

Ivory work

The reference of 'Daṁta Vāṇijja'[1] (ivory business) shows that ivory work was a popular handicraft carried on by some class of people. The craftsmen manufactured bangles, trinkets, ornaments, handles for mirror, etc.

Ivory was obtained either from dead elephants or from the living ones.[2]

6. Crafts based on forest products

The main forest product was timber which was used by carpenters for making furniture, building materials, toys, transport vehicles, etc. Various kinds of furniture such as chairs, tables, bed, pegs, etc. were made by the carpenters. High craftsmanship was shown while making wooden articles for the royal palace. The wooden furniture and walls of the royal palace were studded with precious stones.

The carpenters built ships, boats, vehicles of all sorts, carts and chariots of different kinds and designs. A 'rathakāra' (chariot-maker) was held in high esteem by the king.[3] Woodwork in building was extensively used. It was considered as an important art (kaḍacchejjam).[4]

We can say that wood craft was in flourishing state and it fulfilled the various requirements and the artistic taste of the people. The description of chariots, ships and boats is a clear testimony of the advanced state of science and technology.

7. Other industries

Besides the crafts discussed above, we find references of many other crafts in the texts. Pottery was an important one.

Pottery

Various kinds of earthen pots, jars, bowls, vessels, toys, etc. were made by 'kumbhakāras' (potters) who were skilled craftsmen. The 'Upāsakadaśāṅga Sūtram' mentions 'Saddālaputta'[5] as a rich potter of Polāsapura who owned five hundred sheds for manufacturing earthen-

1. *Supra.*, p. 12.
2. *Cf.*, Jain, K. C., *op. cit.*, p. 290.
3. *Cf*, Jain, J. C., *op. cit.*, p. 101. (reference of rathakāra Nemitti who is given four girls in marriage).
4. *Supra.*, p. 43.
5. *Cf.*, *Upāsakadaśāṅga Sūtram*, Chap. VII, S. 181, pp. 271-272.

wares of various descriptions. These wares were as follows :—

(i) 'Karae' (pot for cooling water)
(ii) 'vārae (pot for saving and collecting money)
(iii) 'pihaḍae' (pot with flat bottom and broad mouth)
(iv) 'ghaḍae' (pitcher)
(v) 'addha ghaḍae' (jar)
(vi) 'jambūlae' (a kind of jar)
(vii) 'uṭṭiyā' (jar with long neck)', etc.

The Bhagavati Sūtram mentions 'Hālāhālā' who was a rich petteres of 'Śrāvastī.[2] Jaina 'Śramaṇas' frequently took shelter in the shops of these potters which shows that the potters as a class were very popular and enjoyed reputation in society.

The ownership of five hundred sheds by a single entrepreneur shows that production of earthenwares was carried on in large scale and it must be a flourishing industry of the time. It must have occupied an important position in the economic life of the society. Large scale production of earthenwares indicates that the people used earthenwares in large number. Such large scale use may indicate the relative cheapness of the product and its consequent wide use.

Other crafts

People were fond of artistic things and hence we find many crafts like architecture, sculpture, painting, embroidery, etc. in a flourishing state. The fine arts and crafts got royal patronage and a large number of craftsmen were provided job by the kings and the nobles. We find references of big palaces, royal gardens, chambers of courtesans, and houses of 'śreṣṭhis' and 'sārthavāhas' which were noted for architectural beauty and artistic designs. Many towns e g. Campā,[3] Rājagṛha,[4] etc. have been vividly described in the texts as prosperous towns having fine buildings, temples, gardens, roads, etc. where a large number of artists and craftsmen resided and engaged themselves in various vocations. Sculpture was highly developed as is evidenced by the abundance of images and idols found at that time.[5] The painters were highly skilled in painting.[6] Jñātadharmakathāṅga Sūtram mentions a painter who

1. *Ibid.*, p. 271.
2. *Cf.*, *Bhagavati Sūtram*, Part XV, Chap. I, S. 552.
3. *Cf*, *Uvavāiya Sutta*, p. 1.
4. *Cf.*, *Jñātādharmakathāṅga Sūtram*, Vol. I., p. 54.
5. *Cf.*, *Ibid.*, Vol. II, Chap. VIII, S. 14, p. 298. (Malli Kumāri got a gold statue built by a sculptor. This statue was an exact copy of her body).
6. *Cf.*, *Ibid.*, Vol. II, p. 306.

could sketch the complete figure of a living being only by seeing a part of his body[1].

All these crafts mentioned above resulted in the production of fine buildings, idols, statues, paintings and other articles of artistic design.

Many small cottage industries like bamboo work, mat industry, basket making, palm leafwork,[2] umbrella making (chattaya),[3] etc. developed which supplied various goods to fulfil the needs of the society.

From the foregoing study of the nature and degree of industrial development in ancient India as depicted in Jaina canonical texts, we can say that this country was fairly industrialised and it produced sufficient goods to cater to the needs of the people belonging to different strata of the society. The abundant supply of products led to large scale trading—both inland and foreign. Trade centres developed and merchants, as a class started occupying dominant position. The development of transport helped the quickening of this process. Now, it becomes imperative for us to study the trade activities of the time as depicted in Jaina canonical literature.

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1. *Cf.*, *Ibid.*, Vol. II, Chap. VIII, S. 2/, p. 417. (the painter painted the exact figure of princess Malli Kumārī by seeing only her toe.)
2. *Supra*, p. 43.
3. *Cf.*, *Bhagavati Sūtram*, Vol. II, Chap. I, S. 8, p. 517.

CHAPTER IV

TRADE

Beginning

In the earlier days of human activities a man produced what he actually required for his consumption, but in course of time, he produced more than what he actually needed. This led to 'exchange' of commodities and services between man and man. Formerly the exchange was in the form of 'barter'—wherein goods were exchanged for goods and services. This exchange was nothing but buying and selling of goods and services which is termed 'trade'. But barter as a system of trade had defects. Hence money appeared on the scene as a medium of exchange and measurement of value. The advent of money helped the process of exchange and as such trade developed.

Trade, which was the natural corollary of surplus production by an individual, grew more and more with large scale production in fields and factories. At first the exchange was limited to local markets but with the development in the means of transport, the domain of trade widened and consequently, we find inter-state trade extending to whole of the country. The merchants of one part of the country sold their products in other parts. Development of the means of transport was both a cause and an effect of increased trading activities. With the growth of trade new means of transport came up to serve the cause of trade. In course of time the trade could not remain confined within the country. It crossed the boundaries and entered the foreign countries too.

Classification

Trade can be broadly classified under the following heads :—

1 Inland trade
2 Foreign trade
   (a) Export trade
   (b) Import trade
   (c) Entrepot trade

1. Inland trade

Inland trade, as its name denotes, is carried on within the geographical limits of a country. It may be local, in which case, the surplus produce of a village or a town is sold in the village or town itself. It

may be zonal or inter-state when articles produced in one zone or State are traded with those of other zones or States.

2. Foreign trade

When goods of one country are traded with those of other countries, such trade is termed foreign trade or external trade. In modern time we find large scale foreign trade in almost every country.

Foreign trade is 'Export trade', when the surplus goods of a country are sent to other countries for sale, and 'Import trade', when commodities are purchased and brought from a foreign market to the home country.

Sometimes goods are imported from a foreign country not for local consumption but with a view to exporting it to some other country. Such trade is termed, 'Entrepot trade'.

Trade in ancient India

We find ample evidences of large scale trade—both inland and foreign—in ancient India as depicted in Jaina canonical literature. The surplus agricultural, industrial and other products were marketed not only locally and internally but also in distant foreign lands. Trade centres developed and merchants as a class grew up.

The Jaina texts give a vivid account of the trading activities of the merchants of those times. Local trade was carried on in a regular way. Trade within the State as well as inter-state trade existed. Commodities brought from the village of the same State were called 'sadesgāmāhaḍaṁ' and those brought from the villages of other States were known as 'paradesagāmāhaḍaṁ'. The Niśītha Sūtram gives a vivid description of such trade in the words 'Jaṁ paragāmāhaḍaṁ taṁ duvihaṁsadesgāmāo, earetti paradesa gāmāo wā.'[1]

System of trade

We come across different words of trade in Niśītha Sūtram,[2] Bhagavati Sūtram[3] and Jñātādharmakathāṅga Sūtram,[4] etc. The words, 'vaṇi' connotes selling of commodities in shop, 'vivaṇi' means moving from place to place to sell. The 'vivaṇi' merchants were itinerant traders. Some of them carried the articles of trade on the carts and

1. *Niśītha Sūtram*, Vol. II, V. 1484, p. 209.
2. *Cf.*, *Ibid.*, Vol. II, pp. 100, 143 and 209. Vol. III, pp. 106, 110, 160 and 581. Vol. IV, p. 130.
3. *Cf*, *Bhagavati Sūtram*, Vol. II, Chap. V, S. 9, p. 857.
4. *Cf.*, *Jñātādharmakathāṅga Sūtram*, Vol. III, Chap. XVII, S. 1, p. 589.

animals, while others carried them over their heads or under their arm-pits (kakkhapuḍiya). Some of the merchants went to distant places to sell goods of their locality. They also purchased goods from distant regions to be sold at different places. The inland trade was carried both through land and waterways (jala-thalesu duvidhaṁ....) The texts also mention about merchants performing sea voyages for trade which shows that foreign trade also existed at that time.

Markets

Market place for purchase and sale of merchandise was known as 'āvaṇa' or 'haṭṭa'. Some markets, it appears, were specialised in the exchange of particular commodities e. g. market for pots (bhāṇabhūmi), market for confectionery (potiya), market for perfumery (gaṁdhiyāvana), etc. The purchase and sale has been mentioned as 'kaya-vikkaya', while the marketable commodities were known as 'paṇya' or 'krayāṇaka' The buyers and sellers in the market were called 'kaiya' (or kayaga) and 'vikkaiya' (vikkinaṁto) respectively. We also find reference of shops where all kinds of commodities were available (kuttiyāvaṇa bhūyā) These might be some sort of departmental stores at that time.

References of particular market for particular commodities lead us to believe that there existed some sort of organised markets in ancient India. Of course, there is no detailed reference of their working to enable us to compare them with the modern produce exchanges or bullion exchanges, but markets of different nature did exist.

Forms of Organisation in Trade

Trade in ancient India was mostly carried on by the merchants as sole traders. The reference, "paṁca vaṇiyā sambhāga samāittā vavaharaṁti"[1], tells us abouts five merchants carrying on trade by putting an equal share (samabhāga). The means that partnership as a form of business organisation was known to people. The traders were generally united under trade guilds known as 'seṇi' (śreṇis) headed by seṭṭhis (śreṣṭhis). The seṭṭhis were very rich and influential persons and had special status in the society. The merchant guilds advocated private enterprise based on collective system which gave incentive to the growth of trade and commerce. The Jaina canonical texts refer to guilds of goldsmiths[2], painters, etc. The guilds represented the business community before the State and worked for their welfare. in Jñātādharmakathānga we find the Śreṇis of painters representing before the king to

1. *Niśītha Sūtram*, Vol. IV, V. 6404, p, 309.
2. *Cf.*, *Jñātādharmakathāṅga Sūtram*, Vol. II, Chap. VIII, S. 26, p. 400.

reduce the death sentence of a painter to which the king agreed.[1] The guilds formed their own codes and the king recognised them. They exercised considerable control over the members who were bound by the codes of the guilds.

The formation of guilds in those days shows that the merchants possessed the idea of modern chambers of commerce to safeguard and promote their interest. We, thus, find unions among the merchants which strengthened their position before the king and the people.

Trade journeys : Hardships

The accounts given in the texts reveal that journey for trade in ancient India was full of hardships and difficulties. Transport facilities were few and far between Carts and animals were the only means of land transport. In water transport we find the use of small boats and sailing ships. Good roads did not exist and hence the traders had to find their way through thick forests and isolated regions. At times they had to encounter natural phenomena like excessive rains, flood, drought and famine. There was danger of attack from robbers and other miscreants In oceanic ventures they had to come across various sea-perils, viz. strong waves, storms, sea-pirates, etc. The journey was quite unsafe and hence the merchants dared not move out for business purpose without forming a strong group.

Satthavāha or Sārthavāha (the leader of the caravan of merchants)

The group of merchants going out with money and commodities for trade was known as 'sattha' or 'sārtha' (caravan of merchants) and their leader or head was called 'satthavāha'[2] (caravan-leader). Though the literal meaning of sattha (sārtha) was a group of persons moving together for some purpose, it generally meant a caravan of merchants. The head of the sārtha i. e. sārthavāha was generally a leading merchant of repute.[3]

The sārthavāha occupied a key-position in the trading group. It was he who took initiative in chalking out a detailed programme of the trade-journey. He must have been a man of immense foresight, drive, initiative, courage, intelligence and honesty. He gave directions regarding halts, routes and danger spots. He assumed full responsibility for the safety of the sārtha. He took ample equipments to make the journey safe. At times the sārthavāha provided all the articles of necessity to the members of the 'sārtha'.

1. *Cf*, *Ibid*, Vol. II, Chap. VIII, S. 28, p. 425.
2. Cf., Moticandra, *Sārthavāha*, Introduction, p. 1.
3. *Cf.*, *Niśītha Sūtram*, Vol. II, S. 26, p. 469.

There is reference of a 'sārthavāha' named 'Dhanya' (Dhaṇṇe) of Campānagari in Jñātādharmakathāṅga Sūtram[1] who made an announcement, regarding organising a trade caravan to Ahicchatrā nagari and invited persons to join the caravan. He also announced to assist the accompanying persons with all sorts of help, e. g. food, waterpots, shoes, medicines and money. He led the caravan quite successfully guiding the members of the team. On the way he forbade them to use the products of a particular tree (Naṁdi fruit-trees)[2] lest the user may die of some disease. Some of them did not follow the advice of Dhanya sārthavāha and ate the fruits of the Nandi tree which resulted in their death.

The above episode is a proof that sārthavāhas were leaders in the real sense of the term. It further shows that they were men of intelligence and possessed thorough knowledge of things around them. They had a keen power of observation and were very skilled in the art of their business. They also knew how to please the kings in distant places and take concessions in business. The Jñātādharmakathāṅga Sūtram further tells us that Dhanya sārthavāha after reaching Ahicchatrā nagari presented costly articles to the king Kanakaketu who was pleased enough to allow him to trade without paying taxes.[3] 'Dhanya' sārthavāha took advantage of this and sold his commodities at that place. With the money received from the deal, he purchased various articles. This is revealed in the reference 'taenam se Dhaṇṇe satthavāhe bhaṇḍa viṇimayaṁ karei karittā paḍibhaṇḍam geṇhai geṇihattā suhaṁ....'[4] occurring in Jñātādharmakathānga Sūtram.

The purchase of commodities by Dhanya sārthavāha at Ahicchatrā nagari on his way back indicates business transactions both ways. It (the sārtha) not only sold its goods to the distant places but also purchased commodities from those places to be carried to home town for sale. The difficulty in organising a sārtha too frequently must have prompted the sārthavāhas to take full advantage of the trip and make business in each movement.

Sārthavāhī : Women as caravan leaders

There is mention of a woman caravan leader, Bhadrā Satthavāhi in Anuttaropapātika Daśā Sūtram, the 9th Anga of the Jaina canonical literature. It refers to the reference, "tattha ṇaṁ Kāgandie nagarie

1. *Cf.. Jñātādharmakathāṅga Sūtram,* Vol. III, Chap. XV, S. 2, p. 104.
2. *Cf*, *Ibid.*, Vol. III, Chap. XV, S. 3, p. 112.
3. *Cf.*, *Ibid.*, Vol. III, Chap. XV, S. 4, p. 126.
4. *Idem.*

Bhaddā ṇāmaṁ satthavāhī parivasai"[1]. Bhadrā lived in a town named Kākandī. She was well-versed in the art of trade and business. She was very rich and led an affluent life (aḍḍhā jāva aparibhūā).[2] She got thirtytwo big buildings constructed for her son, Dhanya Kumāra and his thirtytwo wives.[3]

This shows that women in ancient India took active part in business and were not far behind their male counterpart.

Kinds of 'Sattha' or 'Sārtha'

Though the term 'Sattha' commonly meant caravan of traders, we also find mention of different kinds of caravan which too, were known as Sārtha. The texts describe five kinds of Sārtha.[4]

(i) Bhaṁḍi Sārtha	These were caravan of traders who carried their commodities to different centres by carts or wagons for trading purpose.
(ii) Bahilaga	This Sārtha used camels, mules, bullocks, etc. for carrying goods.
(iii) Bhāravaha	The merchants of this kind of Sārtha carried their load by themselves.
(iv) Odariya	It was a caravan of job-seekers who wandered from one place to other in search of of some livlihood.
(v) Kārpatika Sārtha	This Sārtha comprised of monks and nuns who travelled from place to place for begging food (bhikkhāyarā), preaching and visiting different parts of the country.

The Bṛhat Kalpa Sūtra Bhāsya gives a good account of the journey performed by the traders, monks and nuns. Generally the monks did not favour the company of traders because they (the monks) could not get freedom to move and stay at different places as and when they wanted. Yet they had to join the company of the caravan of merchants for safety and convenience.[5]

Means of transport

The trading activities required some means of transport, the importance of which cannot be over-emphasised. In modern times

1. *Anuttaropapātika Daśā Sūtram*, Chap. III, S. 3, p. 35.
2. *Cf*, *Idem.*
3. *Cf.*, *Ibid.*, p. 37.
4. *Bṛhat Kalpa Sūtram*, Vol. III, V. 3066, p. 862.
5. *Cf.*, Moticandra. *Sārthavāha*, p. 164.

transport has been described as the life blood of commerce. Trade and transport go together. It is said that if agriculture and industry are the body and bones of a national organism, transport is its nerve. In modern age the system of transport reflects the progress of a nation. In ancient India, however, we do not find varied means of transport. They were not rapid, rather, were slow moving. In the absence of good means of transport trade in ancient India could not flourish to the extent it ought to have. Whatever trade existed was the result of the adventures of the traders who went to far-off places with their merchandise undaunted by the sufferings of the way. The credit goes to the sārthavāhas who organised the trade caravans with great enthusiasm and boldness and were ready for any eventuality. They did not care about the means of transport and proceeded on their journey with the conveyance available in those times.

The chief means of transport on land were animals (bullocks, mules, horses, camels, etc.), carts and wagons. There is mention of bhaṇḍia, sagaḍa, aṇurangā, etc., which were carts and wagons of different designs. In Upāsakadaśānga Sūtram we find Ānanda gāthāpati having a large number of sagaḍa (carts) which were used both for transporting goods and for carrying men to distant places. Ānanda retained five hundred of them for foreign trips and another five hundred for internal transport. He denounced the remaining vehicles and took vow not to use more than one thousand vehicles.[1] Besides carts and wagons, we find 'raha' (chariots) and 'sivigā' (palanquins) which were mostly used for carrying rich persons. There is mention of 'Sahassavāhiṇi siviā' or 'Sahasra vahini śivikā', which could carry thousand persons.[2] Animals such as horses, camels and elephants were used both for carrying goods and for riding purpose. Boats and ships with sails of various designs were used in water transport.[3]

Trade commodities

From the description given in Jaina texts it seems that trading was carried out in various types of commodities. This has been graphically described in the words,'Gaṇimaṁ jāiphala fofalāi, dharimaṁ tu kuṁkuma guḍāi, mejjaṁ copaḍa loṇāi, rayaṇa-vatthāim paricchejjam'[4] Accordingly articles for trade were divided into the following categories :—

(i) Gaṇima — The articles which could be counted e. g. betel nuts (pūgaphala), coconut, scented nut (jāiphala), etc.

1. *Cf.*, *Upāsakadaśāṅga Sūtram*, Chap. I, S. 20, p. 27.
2. *Cf.*, *Jñātādharmakathāṅga Sūtram*, Vol. II, Chap. V, S. 15, p. 46.
3. *Infra*, p. 75.
4. *Uvavāiya Sutta*, Commentary, S. 6, p. 29.

(ii) Dharima	Those which could be weighed e. g. sugar (sakkarā) or guḍa, pepper (pippali), saffron (kuṁkum), etc.
(iii) Meya or Mejja	Those which could be measured e. g. rice, oil, ghee (ghṛta), salt (lona), etc.
(iv) Paricchejja	Those whose value could be ascertained by scrutiny e. g. jewels, cloths, etc.

This classification evidently shows that some articles were sold by counting, some by weight, some by measurement and some by examining their quality and genuineness.

The texts provide a long list of articles in which trade was carried on by the merchants. Among fifteen occupations mentioned in the Upāsakadaśāṅga Sūtram, we find daṁta vāṇijja (trading in ivory), lakkha vāṇijja (trading in lac) rasa vāṇijja (trading in wines), visa vāṇijja (dealing in poison, arms and ammunitions) and kesa vāṇijja (trading in hairs and in furs), etc.[1] They clearly indicate that trading was done in a larga variety of goods. References show that the Sārtha went out with different kinds of foodstuffs, cloths, leather products, ornaments, toilets, utensils, musical instruments, precious stones, etc. for trading purpose.

There were traders who traded in foodstuffs only e. g. cereals, (wheat, rice, etc.), oil, ghee, sakkara (sugar), fruits, drinks, etc. There were other merchants who preferred to trade in costly and precious items e g. jems and jewels, ornaments, saffron, musk, etc. This Sārtha was more vulnerable to be robbed by the dacoits on the way. Nevertheless, we find merchants going to far-off places with various commodities, both cheap and costly, undaunted by the hurdles and hardships of the way. They tried to safeguard their interest and faced the eventualities boldly. There is reference of cloths of puvvadesa (Eastern India) being sold in the Lāṭa desa (Western India) at a high price. The Niśitha Cūrṇi mentions, 'yathā puvva deśjeṁ vastraṁ tata viṣayam prāpya durlabhaṁ arghitaṁ ca'.[2] Gold and ivory were carried from the North (Uttarāpatha) to the South (Dakshiṇāpatha). Articles like pepper (pippali), salt (loṇa), saffron (kuṁkum) were carried to long distances for sale.

This shows that the merchants in those days dealt in any and every type of article and were bold enough to travel long distances to market their merchandise. The strong desire to make huge profit in trading must have been a driving force in undertaking such arduous and hazardous journeys.

1. *Cf.*, *Upāsakadaśāṅga Sūtram*, Chap. I, S. 47, p. 66.
2. *Niśītha Sūtram*, Vol. II, V. 951, p. 94.

Weights and measures

The texts show that proper weights and measures were prevalent in those days which facilitated the traders in making sales and purchases of articles. There is mention of 'tulā' (weighing balance) and 'māṇa' (measure) in the texts.[1] 'Prastha' and 'Droṇa' as weights have been frequently mentioned.[2]

The commentary on Uvavāiya Sutra says that a 'prastha' prevalent in Magadha was equivalent to a seer of these days and a 'droṇa' equalled sixteen seers. The different measures and their equivalents used were as follows :—

2 asai = 1 pasai
2 pasai = 1 seiyā (1 chattāka)
4 seiyā = 1 kulao
4 kulao = 1 patthao or prastha (1 seer)
4 patthao = 1 āḍhaya
4 āḍhaya = 1 doṇo or droṇo or droṇa (16 seers)[3]

The words 'māṇa', 'unmāṇa', 'pramāṇa'[4] used in various texts refer to different weights and measures which stand for volume and lineal measures.

It appears from the texts that some of the traders sometimes tried to use false weight (kūḍatulā) and false measures (kūḍamāṇa).[5] This was, however, strictly forbidden both by the moral laws and by the State. In Upāsakadaśānga Sūtram we find Ānanda Gāthāpati taking many vows before Lord Mahāvira among which one was not to take recourse to false weighing and false measurement (kūḍa-tulā, kūḍa māṇe).[6] It also appears from the texts that the government laid down some rules regarding weights and measures to be used in commercial transactions.

Internal trade routes

The important cities and towns of ancient India were connected either by land routes (roads) or by water ways which were used for internal trade.

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1. *Cf.*, *Ibid.*, Vol. I, V. 424, p. 144.
2. *Cf.*, *Uvavāiya Sutta*, S. 7, p. 30 and S. 38, p. 277.
3. *Cf.*, *Ibid.*, S. 38, p. 276 and 277.
4. *Cf.*, *Ibid.*, S. 7, p. 30.
5. *Cf.*, *Tandula Vaicārikaṁ*, S. 15, p. 27.
6. *Cf.*, *Upāsakadaśānga Sūtram*, Chap. I, S. 43, p. 56.

Land routes

Lord Mahāvīra and many of his disciples travelled to different cities like Rājagṛha, Campā, Vaiśālī, Śrāvastī, Vārāṇasī, etc which were connected by land routes at that time. These towns of Eastern India had trade relations with West India upto Sind and Kashmir and as such these towns must have been well-connected with roads. The movement of Lord Mahāvīra from Rājagṛha and suburb of Nālandā to different places like Kuṇḍagrāma, Ālabhiyā, Śrāvastī, Vaiśālī, Mithilā, Campā, etc.[1] shows that some sort of land routes did exist in certain parts of the country.

The texts clearly mention about different kinds of roads existing at that time which have been described as siṅghāḍaga (triangular roads), tiya (junction of three roads), caukka (crossing of four roads). caccara (crossing of many roads), caummuha (having four gates), mahāpaha (highways), rājamagga (royal roads), paha (ordinary roads), etc.[2]

The existence of such roads specially the highways (mahāpaha or mahapatha) leads us to believe that good roads existed at that time which were used by the merchants as trade routes. At the same time, the descriptions of journey made by the sārthavāhas tell us about the unsatisfactory state of affairs in matter of roads. Hence we can conclude that some good roads and highways existed at some places only but by and large, roads which could be used as land routes by traders, were few and far between.

Some important land routes

No thorough description of the various land routes followed by the traders of the time is available in canonical texts. Yet casual references of merchants going from one town to another are available which tell us about some land routes used for trade purposes. The Jñātādharmakathāṅga Sūtram mentions Dhanya sārthavāha who organised a sārtha from Campā (Bhagalpur) to Ahicchatrā (Ramnagar near Bareilly)[3] It indicates land routes in Northern India. In another text[4] we find Dhanabasu sārthavāha trading between Campā and Ujjain through Kośāmbi and Banāras. Mathurā was an important trade centre which traded with the southern region as well. We also find an account of some land routes followed by the merchants who went up to Pārasadīva (Persia) for trading operation.

1. *Cf.*, Jacobi, H., *op. cit.*, Vol. XXII, p. 264.
2. *Cf.*, *Jñātādharmakathāṅga Sūtram*, Vol. I, Chap. I, S. 12, p. 172.
3. *Cf.*, *Ibid*, Vol. III, Chap. XV, S. 2, p. 104.
4. *Cf.*, Moticandra, *Sārthavāha* p. 166.

The growth of cities and towns as commercial centres is indicative of the existence of some developed land routes of those times. Rājagṛha was linked with Takṣaśilā and Puṣkalāvatī (Peshawar) which were famous trade centres of North-West India. Takṣaśilā was a noted trade centre in as much as it was from this place that trade was carried on with the West. This northern route from Rājagṛha to Puṣkalāvatī is known as Uttarāvaha (Uttarāpatha) which passed through Rājagṛha, Vārāṇasī, Kauśāmbī Mathurā, and so on.[1] It was by this route that students of Eastern India went to Takṣaśilā (now in Pakistan) which was a famous seat of learning in those days. The Uttarāvaha might have been the Grand Trunk route which Śera Śaha later on got renovated and extended.

There was another land route between Rājagṛha and Pratiṣṭhāna (Paiṭhan-Maharastra) which was known as Kāntārapatha[2] probably because it passed through a thick jungle. It led to Kauśāmbī, Māhiṣmatī, etc. reaching up to Patiṭṭhāna (Pratiṣṭhāna). Another route went westward to Sind which passed through the desert of Rājasthāna. There is reference of members of a Sārtha dying on a desert route for want of water.[3]

The important land route of the South was known as Dakṣiṇāpaha.[4] There is mention of merchants of different regions of north and south meeting each other with their merchandise and exchanging them.[5]

This shows that the traders and Sārthavāhas not only traded to distant regions but also made cultural contacts with far-off places in ancient India

Internal water routes

Besides land routes the rivers also provided useful transport facilities for internal trade. The five important navigable rivers mentioned are the Ganges, Yamunā, Sarjū, Kośikā and Mahī.[6] Other rivers like Sindhu, Irāvatī, Veṇṇā,[7] etc. have also been mentioned in the text which served as means of communication. The famous town like Campā, Pāṭaliputra, Vārāṇasī, Kauśāmbī were connected by waterways.

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1. *Cf.*, *Ibid.*, p. 169.
2. *Cf.*, Agrawala, V. S., *India as Known to Pāṇini*, p. 242.
3. *Cf.*, *Āvaśyaka Cūrṇi*, Vol. II, S. 34, p. 553.
4. *Cf.*, *Bṛhat Kalpa Sūtram*, Vol. III, V. 3204, p, 896.
5. *Cf.*, *Idem.*
6. *Cf.*, *Nīśītha Sūtram*, Vol. III, V. 4210, p. 364.
7. *Cf.*, *Ibid.*, Vol. III, p. 425. V. 4470.

Boats of different sizes and shapes were used in the river transport. These were commonly termed 'nāva' or 'pota'.[1] They have also been mentioned as agatthiya, antaraṇḍakagoliyā, koṅcavīraga,[2] etc. Boats sailing along the currents of the water have been described as 'anusrotogāmini' while those sailing against the currents as 'pratilomagāminī'.[3] Boats going across the river straight to the other bank were known as 'Tiriccha'[4]. The merchants after loading their boats went out to different places for trade.

It is gratifying to note that the internal water transport system was well-developed during the good old days. The inter-connection of Bhagalpur and Kośāmbī by river testifies to the developed state of navigational system It is more significant because to-day we are not able to keep the navigational system under operation even on a part of the route mentioned above.

Coastal trading

The canonical texts provide ample references of coastal trading in those days. The Uttarādhyayana Sūtram mentions about a merchant named Pālita (Pāliya) of Campā, also a great scholar of religion and philosophy carrying on coastal trading by ships.[5] He went to the town of Pihuṇḍa (near Kalingapattam[6]) for trade and was married there to a Vaiśya girl. After sometime while he was returning back to his home with his pregnant wife, she delivered a son on the ship. The boy was named Samudrapāla[7] as he was born at the sea.

This reference leads us to believe that the traders in ancient India carried on coastal trade also. They went out in the sea with boats and sailing ships laden with trade cargo and sold them at huge profit. There was a kind of boat sailing from one shore to another which was called 'tiryak-saṁtariṇi'.[8] The above description is a clear testimony to the development of shipping industry and coastal trade in India.

1. *Cf.*, *Bhagavati Sutram*, Vol. II, Chap. VI, S. 2, p. 25
2. *Cf.*, *Bṛhat Kalpa Sūtram*, Vol. III, V. 2397, p 681.
3. *Cf.*, *Niśītha Sūtram*, Vol. I, V. 183, p. 69.
4. *Cf.*, *Idem.*
5. *Cf.*, *Uttarādhyayana Sūtram*, Vol. II, Chap. XXI, V. 1, p. 925.
6. *Cf*, Law, B. C., *op. cit.*, p. 146.
7. *Cf.*, *Uttarādhyayana Sūtram*, Vol. II, Chap. XXI, V. 4, p 928.
8. *Cf.*, Jain, J. C., 'Trade and Commerce in Ancient India', *The Vikram*, Vikram University, Ujjain, Vol. XX, (May and Nov., '76), p. 65.

Foreign trade

So also the Jaina canonical texts give ample evidence of foreign trade being carried on in ancient days The Jñātādharmakathāṅga Sūtram narrates some good stories depicting foreign trade of the time.

Description in Canonical Texts

In one of the stories we find some shipping merchants (ṇāvā vaṇiyagā)[1] who resided at Campā in Aṅga Janapada and were engaged in foreign trade. One of them was Arahannaka. The traders were very rich and traded in all the four kinds of articles viz. articles which could be counted (gaṇima), weighed (dharima), measured (mejja) or examined (paricchejja)[2]. After loading the trade articles on the carts they commenced journey by land route from Campā and reached the port (poya paṭṭaṇa) of 'Gaṁbhira' (Tāmralipti of West Bengal)[3]. The goods were unloaded from the carts at the port and properly loaded on the boats or ships (poyavahaṇa)[4]. The ship was fully equipped for sea-journey. Articles of necessity for sea voyage e. g. rice, flour, oil, ghee, sugar (guḍa), other eatables, cloths, medicines, fighting weapons, etc. were kept on the ship. The permission of the king for sea-journey (rāyavarasāsaṇesu) was also obtained.[5] The friends and relatives of the traders bade them goodbye and wished them best of luck. Then the crew of the ship took their position for sailing the ship. There were captains, helmsmen (kaṇṇadhāra), oarsmen (kucchidhāra) and other helpers (gabbhijja)[6] on the ship. The ropes (rajju) with which the ship was tied to the dock were released and the ship sailed in the sea (lavaṇa samudda)[7] with the support of the winds. The ship could face the strong waves, high tides and other dangers of the sea. It made safe journey and returned back to its destination after completing its desired trading operations.

The text shows that the traders led by Arahannaka travelled through land, rivers (Gaṅgā salila)[8] and ocean to complete their trade journey. On the way they sold their articles making huge profits and purchased other articles to be sold to some other places at a profit.

1. *Cf.*, *Jñātādharmakathāṅga Sūtram*, Vol. II, Chap. VIII, S. 18, p. 322.
2. *Cf.*, *Ibid.*, p. 324.
3. *Cf*, *Ibid.*, pp. 325-326.
4. *Cf.*, *Idem.*
5. *Cf.*, *Ibid*, p. 331.
6. *Cf.*, *Ibid.*, p. 333.
7. *Cf.*, *Ibid*, p. 335.
8. *Cf.*, *Idem.*

There is another reference of a sea-trade in Jñātādharmakathāṅga which throws immense light on the foreign trade activities of the time. According to the descriptions a large number of sea-faring traders resided in the town known as Hastiśīrṣa.[1] They carried on foreign trade and went out in the ocean far and wide for trading purpose. Once they set off on a sea-journey for trade. After sailing for thousands of miles, they faced a terrific storm in the sea. The captain and the crew lost control over their ship and they were at their wits' end. However, they prayed to God (Lord Indra) and the calamity was averted after a shortwhile. They could locate the direction and place of the ship and soon reached near Kāliyadīva or Kālika Dvīpa[2] (Zanzibār in Eastern Africa).[3] They anchored their ship and took small boats to reach on the shore of Kālika Dvīpa.

The traders found mines of silver, gold and precious stones such as diamond and other jewels. They also saw peculiar kinds of horses with yellow colour and striped body[4] (Zebra in all probability)[5] who fled away on the sight and smell of these traders. The traders let them go and filled up their boats with silver, gold and other precious materials and returned back safely to their home town. They presented the articles to their king, Kanakaketu and gave a description of the island mentioning the prevalence of peculiar horses (Zebra) in the country. The king became curious about the horses and asked the traders to go to Kālika Dvīpa again and bring the peculiar horses with them. The traders agreed to comply the order of the king and started making arrangements for the onward journey.

The traders took varied types of commodities with them for trading purpose. They loaded their vehicles with various types of musical instruments e g. stringed instruments like bheri (bhambhāṇa),[6] wooden toys of different colours and designs (kaṭṭha kamma), writing materials (pottha kamma), painting of many kinds (citta kamma), ornaments, jewels, perfumes, spices, oils, cardamom, garlands (granthiṁ) and many articles of artistic designs. Some of them took guḍa, khāṇḍa. sugar (Sakkara) and sugar candy (macchaṇḍiya) of various types for trading. Other packed up cotton, silk and woollen cloths and specialities of

1 *Cf. Ibid.*, Vol. III, Chap. XVII, S. 1, p. 589.
2. *Cf.*, *Ibid.*. p. 595.
3. *Cf.*, Moticandra, *Sārthavāha*, p. 168
4. *Cf.*, *Jñātādharmakathāṅga Sūtram*, Vol. III, Chap. XVII, S. 1, p. 596.
5. *Cf.*, Moticandra, *Sārthavāha*, p. 168.
6. *Cf.*, *Jñātādharmakathānga Sūtram*. Vol. III, Chap. XVII, S. 3, p. 608

these fabrics to sell them in foreign countries. They came to the port of Gambhira and loaded the trade commodities on the sailing ship. They also took sufficient quantity of eatables and drinking water for sea-journey. After the arrangements were complete, their ship sailed in the ocean and with the aid of favourable winds, reached Kāliya Dvīpa in course of time. The ship was anchored there, unloaded and materials were brought on the shore by small boats. The traders went to the island with their commodities and chalked out startegy to trap the peculiar horses (i. e. zebra). They used the musical instruments, food materials, perfumery, etc. to attract them. They dug pits[1] and covered them with cloths and grasses. After laying the trap, they silently watched their movements. Some of the zebras did not come in the trap while others who were attracted towards food and perfumes, were caught and tied with ropes. They were loaded on the boats and then to the ship and brought before the king, Kanakaketu of Hastiśirṣa through the port of Gambhira. The king was very much pleased with the traders and permitted them to trade in his kingdom without paying any tax.[2] They were also honoured by the king and were presented cloths and other articles.

We find a very good description of a shipwreck in another story of Jñātādharmakathāṅga Sūtram.[3] There lived a very wealthy sārthavāha, Mākandi in the town of Campā. His two sons, Jinapālita (Jinapāliya) and Jinarakṣita (Jinarakkiya)[4] made sea-journey for eleven times and returned back safely to their home after making huge profits from foreign trade. They decided to proceed for the twelfth time to which their parents objected and tried to dissuade them from undertaking a sea-venture. But their sons were adament and as such the parents had to give their consent. The two sons of Makandi Sārthavāha took all the four kinds of commodities[5] with them and proceeded far off in the sea. There appeared a terrific tempest in the ocean. The ship lost all control and collided with a hidden under-water rock.[6] It was fully wrecked causing total damage to the commodities. It also took a heavy toll of the life of the occupants of the ship. The two brothers who were expert in swimming, however, caught a wooden piece and swam ashore an island, known as 'Ratna Dvipa'. The story further describes how the two

1. *Cf.*, *Ibid.*, p. 616.
2. *Cf.*, *Ibid.* p. 623.
3. *Cf.*, *Jñātādharmakathāṅga Sūtram*, Vol. II, Chap. IX, S. 1, pp. 555-556.
4. *Cf*, *Ibid.*, p. 556.
5. *Cf.*, *Ibid*, p. 563.
6. *Cf.*, *Ibid.*, p, 573.

brothers managed to escape from the island reigned by Raiṇā Devi who was a woman of devilish character. On the return journey, however, one of the brothers, Jinarakṣita had to lose his life on account of his being attracted towards Raiṇādevi.

In the light of the preceding stories and other references we now proceed to examine the different aspects of foreign trade viz. the kind of sea-vessels, composition and direction of foreign trade in ancient India.

Description of vessels

We come across different kinds of boats and sailing ships being used in sea-trade. These have been variously described in the canonical texts as nāva, poya, poya vahaṇa, vahaṇa, pavahaṇa, etc. According to description given in 'Aṅgavijjā'[1] and other texts we find four kinds of boats and ships plying in those days.

(a) Vessels of large size (mahāvakāsa) i. e. full-rigged sailing ships viz. ṇāva, pota.

(b) Medium sized vessels(majjhimakāya) viz. koṭṭiṁba, Saṁghāḍa, plava, tappaka.

(c) Vessels smaller than medium size (majjhimama-ṇantara) viz. kaṭṭha, velu.

(d) Vessels of smallest size (paccaṁbarakāya) viz. tuṁba, kuṁbha, dati.

Vessels of large size (nāva or pota) were used for long sea-journey. They were fully equipped to meet the challenges of the sea. They were so designed as to face high waves, storms and other calamities of the sea. The ships were properly manned by crew. There is mention of kaṇṇadhāra (helmsmen), kucchidhāra (oarsmen) and gabbhijja (other helpers) among the crew of the ship.[2] The ships contained small boats also to be used in case of emergency or for reaching the shores. We can say that such ships were fully seaworthy and the merchants went to far-off places by such ships covering a long distance in oceans.

The second category of vessels i. e. medium size vessels were also designed for sea-voyage. Comparatively they were smaller and contained less space than the first one. There is a mention of koṭṭiṁba and tappaka plying on the western coast of India. Saṁghāḍa and plava were other kinds under this category.

The third and fourth categories of boats were of small size and were not suited for sea-journey. They could be used for traversing

1. *Cf.*, *Aṅgavijjā* (one of the 84 Āgamas), p. 166.
2 *Cf*, *Jñātādharmakathāṅga Sūtram*, Vol. II, Chap. VIII, S. 19, p. 333.

small distances. Some of them could be used only in rivers or at best on the port for transhipment of goods to and from big vessels (nāva).[1]

The reference of various types of vessels used in sea-journey denotes the peoples' interest in marine adventures. At the same time it also explains the skill of ship-builders who were able to design ships for oceans at a time when motive power was not invented.

Nature and Composition of Exports

From the descriptions given in the texts we find the prevalence of sea trade with foreign countries during the above period. A large number of commodities entered the world market. All kinds of articles e. g. gaṇima (countables), dharima (weightable), mejja (measurable) and paricchejja (examinable) were carried by the traders to different countries of the world for sale. Both the primary and secondary industries of India provided a wide range of merchandise to such traders.

Primary goods

Among the agricultural products spices are generally mentioned.[2] The important among them were cardamom, clove, ginger, pepper, betelnuts, turmeric, etc. Saffron (kumkuma).[3] musk, sandal, etc. also entered the foreign market. Among the animals, horses and mules were taken for sale The traders dealing in horses were known as 'aśva vaṇika' [4]

Manufactured goods

The secondary industries of ancient India supplied various articles ranging from necessities to luxuries to be dealt in foreign market. The outsiders had a special craze for the artistic products of India. The textile industry provided cloths of various designs and varieties which were sold outside India. Cloths made from cotton, silk and wool were carried by traders to foreign lands. The Indian craftmanship and artistic designs in textiles provided a great attraction to the foreign buyers who made repeated demands of these products. Ornaments of silver, gold and jewels entered the sea-faring trade as these oriental products of exquisite beauty manufactured with great skill and dexterity provided a fascination to the affluent section of the foreign countries The traders also dealt in other artistic and luxurious materials like paintings, perfumeries, carved idols, toys, musical instruments, ivory

1. *Cf.*, *Nisītha Sūtram*, Vol. I, V. 185, p. 70.
2. *Cf.*, *Jñātādharmakathāṅga Sūtram*, Vol. III, Chap. XVII, S 3, p. 611.
3. *Cf.*, *Idem.*
4. *Cf.*, *Ibid.*, Vol. II, Chap. IX, S. 5, p. 611.

products and so on. Sugar of various kinds e. g. guḍa, sakkara, khaṇḍa, etc. and oils extracted from oilseeds have also been mentioned as articles of export trade.[1]

Nature and Composition of Imports

While the canonical texts explicitly mention the articles of export, they do not mention the specific articles of import. References simply tell us that the Indian traders brought a large quantity of various types of goods from foreign lands on their back journeys. The Jñātādharmakathāṅga Sūtram narrates the return journey of traders from Kāliya Dvīpa bringing silver, gold and jewels from there.[2] There are references of use of Chinese silk in India.[3] As such it appears that it was imported from China. 'Cīnāṁśuka' is explained as cloth brought from China.[4]

We find from the texts that a large number of foreign slaves, both male and female, served the kings, nobles and the affluent persons in India. This shows trading in slave labour. The slaves were brought from different regions and from different countries. There were female slaves from Ceylon (siṅghali), Arabia (āravi), Afghanistan (vahali), Persia (pārasíhi), Greece (yonikā-joṇiyā) and so forth in the palace of Megha Kumāra.[5] People also learned foreign languages from them which helped them in developing cultural and trade relations with those countries.

The composition of foreign trade vividly narrates the economic condition of India vis-a-vis other countries of the world. India exported all kinds of goods—both primary and secondary to other countries of the world. She had only a few commodities to import. She imported the fine fabrics from countries like China or some such goods like jewellery and ornaments, etc. The payment could not be fully made in goods. This obliged the importing countries to pay in terms of gold and silver. This shows the prosperity of the country and the height which she attained in the matter of economic activities. Lured by the prosperity of the country many people came over here in search of livelihood. Some of the immigrants even served as slaves; a few taught their languages, etc.

Direction of foreign trade

As discussed earlier foreign trade in ancient India was carried on both by land routes and by the sea routes. References show that India

1. *Cf., Idem.*
2. *Cf., Ibid*, p. 599.
3. *Cf., Praśṇa Vyākaraṇa Sūtram*, p. 111.
4. *Cf., Niśītha Sūtram*, Vol. II, S. 10, p. 399.
5. *Cf., Jñātādharmakathāṅga Sūtram*, Vol I, Chap. I, S. 21, p. 257.

had good trading relations with Iran (Pārāsakūla) through land routes. India sent betel nuts, sandal, jewels, etc. to Iran and imported silver, gold, pearl, coral, etc. from there. References show that slaves were brought from Arabia, Afghanistan, Greece, and other adjoining countries which indicate that India had trade relations with these countries.

The ocean routes were followed for the countries which were not approachable by land. Sea-faring traders went to Ceylon (Siṁhala), China, Kāliya Dvīpa (Zanzibar in Eastern Africa), Ratna Dvīpa, Svarṇa Dvīpa (Sumatra), Java Dvīpa (Java), etc. Traders went with cloths, sugar, spices, saffron, musk, perfumeries, ornaments, paintings, toys, musical instruments and other articles as discussed before and came back with silver, gold, spices, silk and other articles as and where available which could be sold at a profit.

Imposition of Custom Duties

References in the texts show that the State used to exercise strict vigilance over the trade of the merchants who were required to pay taxes to the king. They had to procure permit (Rāivarasāsaṇa)[1] while going out for foreign trade. There is no specific mention in the texts regarding export duties, but the traders had to pay taxes on imported items. If it was so, it can be said that the States in ancient India were interested in export promotion and hence they did not levy any export duty. It might have been done with the objective to give incentive to export trade.

Some of the merchants returning back from foreign countries with valuable goods sometimes practised fraud and tried to evade payment of taxes. There is mention about a trader named Acala (Ayala) of Beṇṇāyaḍa who returned back from Persia (Pārasakūla) with good deal of money and trading articles. The king with the help of his officials inspected the trade commodities and found costly items like silver, gold, and jewels concealed in the bags of betelnuts and conch shells to avoid payment of taxes. The king became furious and the trader was arrested.[2] Such cases it seems, were rare. The deceitful merchants when detected were punished and were, looked down upon by the people.

Trade centres

The texts also mention centres which were noted for trade and commerce. Hence it would be interesting and illuminating to study the important trade centres of ancient India. Before discussing the parti-

1. *Cf*, *Ibid*, Vol. II, Chap. VIII, S. 18, p. 331.
2. *Cf.*, Jain, Jagadīśa Candra, *op. cit.*, pp. 177-178.

cular centres, we should first know the States (Mahā janapada), regions (Janapada) and their capital town at that time. According to Bhagavati Sūtra, there existed sixteen States (Mahā janapadas) at the time of Lord Mahāvīra which were as follows[1] :—

1. Aṅga
2. Baṅga (Vaṅga)
3. Magaha (Magadha)
4. Malaya
5. Mālava (Mālavaka)
6. Accha (Rikṣa)
7. Vaccha (Vatsa)
8. Koccha (Kaccha)
9. Pāḍha (Pāṇḍya)
10. Lāḍha (Rādha)
11. Vajja (Vajji-Videha)
12. Moli (Malla)
13. Kāśi
14. Kośala
15. Avāha and
16. Saṁbhuttara (Saṁhottara)

It is mentioned in the texts that Lord Mahāvīra put restrictions on the movement of Jaina monks beyond a certain geographical limit. They were allowed to move only up to Aṅga-Magadha in the east, Thūṇā in the west, Kuṇāla in the north and Kośāmbī in the south.[2] This means that the Jaina sādhus could move only in Bihar and in a portion of U. P. at that time as it was thought that these regions were 'Ārya' and in this region the monks could preserve their religion and right conduct

Gradually, with the march of time the monks wandered farther and after an elapse of about three centuries (at about 220 B. C.), we find king Saṁpai (Samprati) declaring twenty five and a half kingdoms as 'Āryan' which were safe and suitable for the movement of Jaina monks. The kingdoms (the regions) and their capitals were as follows[3] :—

Kingdoms (Janapadas)	*Capitals*
1. Magadha	Rayāgiha (Rājagṛha)
2. Aṅga	Campā
3. Vaṅga	Tāmalitti (Tāmralipti)
4. Kaliṅga	Kañcaṇapura

1. *Cf.*, *Bhagavati Sūtram*, Vol. XI, Chap. I. S. 16, p. 680.
2. *Cf.*, Jain, Jagadiśacandra, *op. cit*, p. 458.
3. *Cf.*, *Bṛhat Kalpa Sūtram*, Vol. III, V. 3263, p. 912-14.

Kingdoms (Janapadas)	*Capitals*
5. Kāśī	Vāṇārasī (Vārāṇas·)
6. Kośala	Sāketa
7. Kuru	Gayapur (Gajapur) or Hastināpura
8. Kusaṭṭā (Kuśārta)	Soriya (Śoripura)
9. Pañcāla	Kampillapura
10. Jāṅgala	Ahicchattā (Ahicchatrā)
11. Suraṭṭha(Saurāṣtra)	Bāravai or Dvāravati (Dvārikā)
12. Videha	Mihilā (Mithilā)
13. Vaccha (Vatsa)	Kosambī Kauśāmbī)
14. Saṇḍilla (Śāṇḍilya)	Nandipura
15. Malaya	Bhaddilapura (Bhaddrilapura)
16. Maccha (Matsya)	Verāda (Vairāta)
17, Varaṇā	Acchā
18. Dasaṇṇa (Daśārṇa)	Mattiyāvai (Mṭttikā vati)
19. Cedi	Suttivai (Śuktimati)
20. Sindu-Sovira	Vīibhaya (VītiLhaya)
21. Sūrasena	Mahurā (Mathura)
22. Bhaṅgi	Pāvā
23. Purivaṭṭa	Māsapuri
24. Kuṇālā	Sāvatthī (Śrāvastī)
25. Lāḍa (or Lāḍha)	Koḍivarisa (Koṭivarṣa)
25½. Kegaiaddha (Kekaya ardha)[1] i. e. half of Kekaya	Seyaviyā (Śvetikā)

The Janapadas and their capital listed above included most of the important trade centres of the time. These regions, called Āryan countries were connected by land and water routes and must have been important for trade at that period. The different trade centres have been mentioned in the texts as grāma, ākara, nagara, nigama, kheṭa, karavaṭa, droṇamukha, paṭṭana, etc.[2] having different meanings. They have been explained as follows :—

Gamma or Grāma (Villages) : They were the places inhabited by people where they had to pay eighteen types of taxes. This is found in the reference, 'Gammo gamaṇijjo vā, karāṇa gasae vā buddhādi.'[3] The taxes were on agricultural, horticultural, animal products, etc.

Ākara : They were the places having mines of gold, silver, iron, etc.[4] It seems that these were mining towns and must have become important for trading.

1. *Cf.*, *Idem*, (Kekaya region was situated at the base of Nepal and only half portion of it was considered Āryan).
2. *Cf.*, *Praśna Vyākaraṇa Sūtra*, Chap. V, S. 17, p. 445.
3. *Bṛhat Kalpa Sūtram*, Vol II, V. 1088, p. 342.
4. *Cf*, *Ibid*, Vol. II, V. 1090, p. 342.

Nagara (Town) : They were the places where people were exempted from paying certain taxes. It is explained that nagaras were free from eighteen types of taxes.[1]

Nigama : They were the places where a large number of traders resided and carried on trading business.[2] These towns seem to be big and can be compared with modern municipal corporations which are bigger than towns and command big business and trade.

Kheḍa or Kheṭṭa : They were the places full of dust and soils.[3] These might be agricultural towns.

Kabbaḍaga or Karvaṭa : They were the villages with small population where trading was done on a small scale.[4]

Doṇamuha or Droṇamukkha (nodal towns) : They were the coastal towns or ports where both the oceanic routes and the land routes were available.[5]

Jalapaṭṭana[6] : They were the big ports from where foreign trade could be carried out on a large scale. They were big centres of trade where many commodities were available for making trade transactions.

We shall now discuss the following trade centres which were famous at that time :—

	Name of centres	*present State/country*
1.	Rāyagiha (Rājagṛha)	Bihar
2.	Campā	,,
3.	Pāṭaliputra	,,
4.	Mithilā	,,
5.	Vaiśālī	,,
6.	Gambhīra	West Bengai
7.	Dantapura	,,
8.	Hastiśīrṣa	not indentified
9.	Kancaṇapura	Orissa
10.	Pihuṇḍa	Andhra Pradesh

1. *Cf., Ibid.*, Vol. II, V. 1089, p. 342.
2. *Cf., Ibid.*, Vol. II, V. 1091, p. 342.
3. *Cf., Ibid.*, Vol. II, V. 1089, p. 342.
4. *Cf, Idem.*
5. *Cf, Ibid.*, Vol. II, V. 1090, p. 342.
6 *Cf., Idem.*

Name of centres	*present State/country*
11. Vārāṇasī	Uttar Pradesh
12. Kauśāmbī	,,
13. Sāketa (Ayodhyā)	,,
14. Śrāvastī	,,
15. Mathurā	,,
16. Ahicchatrā	,,
17. Hastināpura	,,
18. Ujjaini	Madhya Pradesh
19. Māhiṣmatī	,,
20. Pratiṣṭhāna	Maharashtra
21. Śurapāraka	,,
22. Bhṛgukaccha	Gujarat
23. Dvāravati	,,
24. Vītibhayapaṭṭan	Pakistan
25. Takṣaśilā	,,
26. Puṣkalāvatī	,,

1. Rāyagiha (Rājagṛha)

Rāyagiha (Rājagir) in Bihar was the capital of Magadh at the time of Lord Mahāvīra. The rulers in his time were Bimbisāra (King Seniya or Śreṇika)[1] and Ājātaśatru (Kuṇika). Rājagṛha became a famous capital city and was a great seat of Jainism and Buddhism. Lord Mahāvīra visited this city many times and delivered his sermons. The place is famous even today for its beautiful location surrounded by five hills and for the hot springs. This town was also known as Giribraja. It had many important Caityas (shrines) such as the Guṇasilaka Caitya.[2] The planning of the city in the sixth century B. C. seems to be the work of a genius. Its surviving city walls and fortification still show the architectural standard reached during that period.

Rājagṛha was a famous centre of trade and was habitated by rich and affluent people. Traders from different places came here to purchase goods. This town was connected with Takṣaśilā and other places by land routes which were used by Sārthas for trading purpose.

2. Campā (near Bhagalpur)

According to canonical texts Lord Vāsupūjya, the twelfth Tirthaṅkara, attained nirvāṇa (salvation) at Campā (Campāpurī). King Kuṇika

1. *Cf.*, *Jñātādharmakathāṅga Sūtram*, Vol. I, S. 4, p. 54.
2. *Cf.*, *Idem*.

(Ājātaśatru), son of king Śreṇika (Bimbisāra) left Rajagṛha on the death of his father and made Campā his capital.[1] It was a famous capital of Aṅga Janapada. Lord Mahāvīra visited this place and we find a nice description of king Kuṇika going to Purṇabhadra Caitya (shrine) with his queens for a 'paryupāsanā' (worship) of Lord Mahāvīra.[2] Uvavāiya Sutta gives a vivid description of Campā which was a beautiful, prosperous and affluent city of that time.[3] The town was famous for its architectural beauty. A large number of craftsmen, artists and śreṣṭhis (rich people) resided there.

Campā was a big centre of trade activities. Traders went to places like Mithilā, Ahicchatrā, Pihuṇḍa through land routes. It was also connected with many towns by internal water route through the Ganges. A good number of businessmen and Sārthavāhas like Dhanya resided in this town. Great entrepreneurs in foreign trade like Arahannaka,[4] Mākandi, Jinapālita[5] have been described to be residents of Campā who carried on trade through oceanic routes via the port of Gambhīra (Tāmralipti in West Bengal).

3. Pāṭaliputra (Patna)

Pāṭaliputra also served as the capital of Magadh at that time. Kuṇik (Ājātaśatru) was the real founder of this town but it was only after his death that his son Udāyi (Udāyibhadda) transferred the capital of Magadha from Campā to Pāṭaliputra. This was built near the confluence of the Ganges, Sone, and Gaṇḍaka but now the Sone has receded some distance away from it. It was named Pāṭaliputra after the name of a Pāṭala tree which stood on the bank of the Ganges. This town was also known as Kusumapura as the tree was laden with many kusumas (flowers).[6] King Udāyi was a great advocate of Jainism. Later on, Candragupta, Bindusāra, Aśoka and Kuṇāla adorned the throne of Pāṭaliputra. The first council (Vācanā) for the redaction of Jaina Āgamas was held in this town in about 367 B. C.

Pāṭaliputra was a good trade centre of Uttarāpatha. Land routes passed through this great town and it assumed a great importance at that time. Trade was carried on through water transport also as it was an important river port. Merchandise from this place were carried to

1. *Cf.*, Law, B. C., *op. cit.*, p. 176.
2. *Cf.*, *Uvavāiya Sutta*, S. 33, p. 223.
3. *Cf.*, *Ibid.*, S. 1, pp. 1-10.
4. *Cf.*, *Jñātādharmakathāṅga Sūtram*, Vol. II, Chap. VIII, S. 18, p. 322.
5. *Cf.*, *Ibid*, Chap. IX, S. 1, p. 556.
6. *Cf.*, Law, B. C., *op. cit.*, p. 176.

Svarṇabhūmi (Burma)[1] and thus, we find this magnificent town a busy commercial centre of ancient India.

4. Mihilā or Mithilā (Janakapura)

Mithilā was the capital of Videha which was one of the twenty five and a half States of the time It was frequently visited by Lord Mahāvīra It is identified with modern Janakpura in the Nepāla Tarāi.[2] The town was well connected with Campā and other important trade centres. Trader from far and wide came to Mithilā for trade transactions. In Jñātādharmakathāṅga Sūtram we find sea-faring traders coming to Mithila from outside to sell their goods. They pleased the king and the king in return was pleased to remit their taxes on sale of goods which enabled them to make huge profit there.[3]

5. Vesālī (Vaiśālī)

Vesālī was another capital of Videha and was an important city of the famous republic of Vajji at that time. People of this place were called 'Licchavi'. Kuṇḍapura, a suburb of Vesālī, was the birthplace of Lord Mahāvīra. He visited this place several times and is said to have spent twelve rainy seasons (caturamāsa) here.[4] King Cetaka was an influential king of Vesālī. His sister, Triśalā was the mother of Lord Mahāvīra. The famous courtesan (Gaṇiya), Ambapāli, renowned for her beauty and art of dancing, lived here.[5]

Vesāli was an important trade centre. A large number of merchants resided here. Adjacent to it was Vaṇiyagāma, whose name denotes that it was a locality of traders aud merchants.

6. Gambhīra (Tāmralipti in West Bengal)

Tāmralipti (Tāmalitti) was the capital of Vaṅga which was included in the twentyfive and a half Āryan countries. It was a famous centre of Jaina śramaṇas. The Jñātādharmakathānga Sūtram mentions Gambhīra port from where the sea-faring traders of Campā and Ahicchatrā loaded their cargo on ships and sailed to distant lands through oceanic routes. This port of Gambhīra is identified with Tāmralipti (modern Tāmluka[6] of Midnāpur District in West Bengal). It was also a

1. *Cf.*, Jain, Jagadīśacandra, *op. cit.*, p. 463.
2. *Cf.*, Sircar, D. C., *Studies in the Geography of Ancient and Medieval India* p. 323.
3. *Cf*, *Jñātādharmakathānga Sūtram*, Vol. II, Chap. VIII, S. 22, p. 376.
4. *Cf.*, Jacobi, H., *op. cit.*, Vol. XXII, (*Kalpa Sūtra*), p. 376.
5. *Cf.*, Jaina, Komalacandra, *op. cit.*, p. 147.
6. *Cf.*, Avasthi, A. L., *Prācīna Bhārata kā Bhaugolika Svarūpa* p. 43.

great riverport of the time. It was also well connected with land routes and as such this centre was a fine example of a 'droṇamukha' (nodal town). Various kinds of articles were exported to foreign countries through this port and similarly goods of various descriptions were brought in this country through it. It was famous for trade in fine cloths [1]

7. Daṅtapura (Daṅtan)

Daṅtapur was a good trading town and was noted for ivory business. It is mentioned in the Āvaśyaka Cūrṇi that a trader named Dhanamitra wanted to build a house of ivory for his wife but was arrested on account of illegal trading in ivory.[2] According to Pāli literature Daṅtapur was the capital of Kaliṅga.[3] It may plausibly be identified with modern Daṅtan in Midnāpur District in West Bengal.[4]

8. Hastisīsa or Hastiśīrṣa

The Jñātādharmakathāṅga Sūtram mentions this town as a centre of trade where a large number of traders resided and carried on foreign trade. They went to distant places in the sea and are described to have gone to Kāliyadiva or Kālika Dvīpa (Zanzibar in East Africa).[5] Its exact location is not known but as the traders of this town used the port of Gambhīra (Tāmralipti) for their trading activities, the town served as the hinterland of this port and as such Hasthisīsa must have been located somewhere in the eastern part of India near Gambhīra.

9. Kañcanapura (Bhubaneswar)

It was the capital of Kaliṅga (one of the twenty five and a half States) and is identified with present Bhubaneshwar (Orissa). It is mentioned that the traders of this place went to Laṅkādvīpa and came back with jewels.[6]

10. Pihuṇḍa (near Kalingapaṭṭam in Andhra Pradesh)

The Uttarādhyayana Sūtra mentions Pithuṇḍa (Pihuṇḍa) as a sea-coast town where Pālita (Pāliya), a merchant from Campā arrived

1. *Cf.*, Jain, J. C., *op. cit.*, p. 342.
2. *Cf.*, *Āvaśyaka Cūrṇi* Vol. II, p. 154.
3. *Cf.*, Bose, A. N., *Social and Rural Economy in Northern India*, p. 213.
4. *Cf*, *Idem.*
5. *Cf.*, *Jñātādharmakathāṅga Sūtram*, Vol. III, Chap. XVII, S. 1, p 589.
6. *Cf.*, Jain, Jagdīśacandra, *op. cit.*, p.466.

there for trading.[1] Its location can be searched in the interior of Chikakole and Kalingapaṭṭam (north of Vishakhāpaṭnam in Andhra Pradesh) towards the course of the river Nāgavati.[2] It was a centre of trade and must have commanded a good business as it was situated on the eastern coast of India.

11. Vāṇārasī (Vārāṇasī)

Vāṇārasī[3] (Prākṛta name for Vārāṇasī) was the capital of Kāśī Janapada and was the birthplace of Lord Pārśvanātha, the twenty third Tīrthaṅkara who achieved salvation two hundred and fifty years before Lord Mahāvīra i. e. in 777 B. C.[4] It was an important centre of Jainism, Buddhism and Hinduism. Lord Mahāvīra visited this place also in his itinerary.

It was a reputed trade centre and was famous for the manufacture of silk and other artistic articles. The famous Uttarāpatha route passed through this town. Situated on the bank of river Ganges and being a riverport it commanded a good trade in ancient days.

12. Kauśāmbī (near Allahabad)

Kauśāmbī was the capital of Vaccha (Vatsa) kingdom and has been frequently mentioned in the Rāmāyaṇa and Mahābhārata epics. Lord Mahāvīra came to this place. The town has been identified with 'Kosama' which is a village situated about 37 miles south-west of Allahabad on the northern bank of river Yamunā.[5]

Kauśāmbī was a good centre of trade at that time. Internal water transport was also used by the traders to carry merchandise to different markets.

13. Sāketa (Ayodhyā)

Sāketa was the capital of Kośala State. It was a beautiful town inhabited by rich and highly civilised people. It is said to be the birthplace of Sri Rāmacandra, son of king Daśaratha. Lord Ṛṣabhadeva, the first Tīrthaṅkara was born at this place and Lord Mahāvīra came here for preachings.

A good number of traders resided in this town and carried on trade both inland and foreign. It was also an important riverport of the time.

1. *Cf.*, *Uttarādhyayana Sūtra*, Vol. II, Chap. XXI, V. 1, p. 928.
2. *Cf.*, Law, B. C., *op. cit*, p. 146.
3. *Cf.*, *Jñātādharmakathāṅga Sūtram*, Vol. III, Chap. II, S. 8, p. 822.
4. *Cf.*, Jain, K. C., *op. cit.*, p. 13.
5. *Cf.*, Vajpayee, K. D., *Uttar Pradesh ki Aitihāsika Vibhūti*, p. 6.

14. Sāvatthī (Śrāvastī)

It was a famous capital of Kuṇālā which was included among the twentyfive and a half States of the time. It was frequently visited by Lord Mahāvira. It is identified with modern 'Saheta-Maheta' in Goṇḍā-Baharāicha district of U. P. on the bank of the river Rāpti.[1] It was situated very near to Sāketa (Ayodhyā).

It was a good trade centre. Traders of this place travelled long distances to market their merchandise.

15. Mahurā (Mathurā)

Mahurā (Mathurā) was the capital of Sūrasena, one of the twenty five and a half kingdom of the time. It is described as a very ancient city in the Jaina texts.

It was an important trading town where goods were carried by land routes The famous Uttarāpatha passed through this town making it an important 'thalapaṭṭaṇa' (Land trade centre).

16. Ahicchatrā (Rāmnagar near Bareilly)

Ahicchatrā was the capital of Jāṅgala which was one of the twenty five and a half States of the time. It was also known as Saṅkhyāvati or Chatrāvati (identical with modern Ramnagar in Bareilly district of U. P.).[2] Lord Pārśvanatha, the twentythird Jaina Tīrthaṅkara visited this place. According to Jaina belief Dharaṇendra (Nāgarāja) portected Lord Pārśvanātha at this place by holding a canopy of his thousand hoods over the head of Pārśvanatha, when the latter was being persecuted by Kamaṭhasura.[3] This is why the town was named Ahicchatra (canopy or hood of serpent).

This town is mentioned to have maintained good trade relations with different trade centres. Dhanya Sarthavaha of Campā organised a Sārtha for this place. It fell on the important trade route of Uttarāpatha and as such became a noted centre for trade.

17. Hatthiṇāpura or Hastināpura (near Meerut, U. P.)

Hastināpura or Gayapura (Gajapura) was the capital of Kuru region which was one of the twenty five and half countries of the time. Lord Mahāvira came to this place several times. It was the birth place of several Tīrthaṅkaras. It is reckoned as a glorious historical city of ancient India. Many times it was ruined and rehabilitated again and again. It was named Gajapura because of abundance of elephants in

1. *Cf.*, Jain, Jagdiśaçandra, *op. cit.*, p. 485.
2. *Cf.*, Law, B. C., *op. cit.*, p. 169.
3. *Cf.*, *Idem*,

the region. King Hastina named it Hastināpura.[1] At the present time the ruins of this old magnificent city can be located at about twenty two miles north-east of Meerut in U. P.

Situated on the bank of river Ganges, it was an important trade centre of North India for a pretty long time. It was famous for different arts and crafts and commanded good business at the time.

18. Ujjeṇī (Ujjain)

Ujjeṇī was a famous trade centre of the time. It is identified with Ujjain (M. P.). The texts mention it as a prosperous city where a large number of merchants carried on trade. The Āvaśayaka Cūrṇi describes how traders moved out in caravan from this place and maintained trade relations with distant regions.[2]

19. Māhesarī or Mahissatī (Mahiṣmati or Māhesara—near Indore)

It was situated south of river Naramadā and was a flourishing town of the time. Traders of the north went to south through this centre and as such it commanded an important place in the home trade of ancient India. It was situated near Indore in Madhya Pradesh.

20. Pratiṣṭhāna (Paiṭhaṇa in Mahārāṣṭra)

It was a town situated on the northern bank of Godāvarī. Its remain lies in Aurangābad district in Mahārāṣṭra State. It is also mentioned as a trade centre of the time

21. Sopāraya or Śūrapāraka (Sopārā in Mahārāṣṭra)

It was situated on the west sea-coast and was a big centre of sea-trade. It had a regular trade with Bharuyakkaccha (Bhṛgukkaccha) and Suvaṇṇabhūmi (Burma). According to Bṛhatakalpabhāsya, a large number of traders resided here and dealt in various kinds of goods.[3]

It is identified with Sopārā of Ṭhāṇā district in Mahārāṣṭra. It is now a village situated forty miles north of Bombay.[4]

22. Bharuyakaccha or Bhṛgukaccha (Broach)

It was a beautiful and prosperous town of Lāṭa Kingdom. It was situated on the mouth of the river Narmadā and was a sea port. The town was a fine example of droṇamukha (nodal town) where trade was carried on both by land routes as well as water routes. Ships for

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1. *Cf.*, Jain Jyoti Prasād, *Hastināpura*, p. 1.
2. *Cf.*, *Āvaśyaka Cūrṇi*, Vol. II, p. 154.
3. *Cf.*, *Bṛhat Kalpa Sūtram*, Vol. III, V. 2506-07, pp. 708-709.
4. *Cf.*, Moticandra, *Sārthavāha*, p. 103.

different countries sailed from this port carrying merchandise of different sorts. It was well-connected with Ujjenī.

It is identified with Broach of Gujarat.

23. Dvāravati or Bāravai (Dwārkā)

The Jñātādharmakathāṅga Sūtram mentions it as a very beautiful and prosperous town inhabited by rich persons including traders, Satthavāhas and Śreṣṭhis[1]. It was the capital of Suraṭṭha (Saurāṣṭra) which was one of the twenty five and a half States of the time. According to some scholars it was located near Jūnṇāgaḍh[2] but the mention of Lord Kṛṣṇa as the king of this place in the texts[3] leads us to identify it with Dwārkā in Gujarat. Located as it was on the western coast of India, it must have been an important sea-port of the time.

24. Vīibhaya or Vītibhayapattana

The town was the capital of Sindhu-Sauvīra which was a Janapada situated in the lower Indus Valley and was one of the twentyfive and a half States of the time. It is also known as Kumbhārapakkheva (Kumbhakārapraksepa).[4] It may be identified with Bhera in Śāhapura district in Pakistan.

The town was situated on the left bank of the river Sindhu (Indus). It was a river port. Though situated in the desert region it commanded good business in the area.

25. Takṣaśilā

It was an important trade centre and a famous seat of learning in those days. Traders from eastern and northern India went to western countries for trade through this place. It was a great city of Gandhāra Janapada and served as one of its capitals.[5] It was outside the twenty-five and a half Āryan countries. The remains of the town lie near Rāwalpiṇḍi in Pakistan.

26. Puṣkalāvatī or Puṣkarāvatī

The ancient city of Puṣkalāvatī, 'the city of lotuses' was situated about 17 miles north-east of Puriṣapura (Peshawar in Pakistan).[6] It was one of the capitals of Gandhāra country which was not included in

1. *Cf.*, *Jñātādharmakathāṅga Sūtram*, Vol II, Chap. V, S. 2, p. 3.
2. *Cf.*, Jain, J. C., *op. cit.*, p. 271.
3. *Cf.*, *Jñātādharmakathāṅga Sūtram*, Vol. II, Chap. V, S. 5, p. 9.
4. *Cf.*, *Āvaśyaka Cūrṇi*, Vol. II, p. 37.
5. *Cf.*, Sircar, D. C., *op. cit.*, p. 323.
6. *Cf.*, *Ibid.*, p. 289.

the twenty five and a half Āryan countries. Traders of eastern and northern India came to this town when going to western trade centres for trading purpose.

A Summary

The descriptions available in Jaina canonical texts conclusively prove that India in those days was humming with activities. Not that only agriculture and industry were prosperous, the trading activities too were brisk—both internal and external. The trading activities were well-supported by well-developed land and water routes wherever they existed. The river Ganges was navigable from Bhāgalpur to Kauśāmbī near Allāhābād. Many other rivers were equally navigable and goods were transported by internal waterways. References occur of droṇa-mukha (nodal towns) from where goods were exported to other countries of the world Mention is made of such towns both in the East and West. Trade centres were spread all over the country. Not only that they were well-spread, they were well-connected with each other.

All kinds of goods—both primary and manufactured—were exported from the country to distant lands. Those countries had not much commodities to pay for and hence paid for in gold, silver and jewels It might be that some of them paid in person. This is proved by the presence of slaves in India. It might be that people were attracted towards India on account of her prosperity or they came to India for earning their livelihood. All these go to prove that industries and trade were well-developed in India. The country was prosperous and people were affluent. The role of Sārthavāhas proves that traders were adventurous, brave and courageous and not only made the country rich and prosperous, but made it famous all over the world

Trade necessitates the use of money. It requires finance as well. We will study them in the next chapter.

CHAPTER V

THE FINANCIAL SYSTEM
BANKING, CURRENCY AND FINANCE

The canonical texts suggest a fairly developed state of agriculture and industries in ancient India. Alongwith that we have also found a developed internal and external trade at that time. This pre supposes a well-developed financial system i. e. a developed banking, currency and finance. We propose to take up their study according to Jaina canonical literature.

Banking

Banking plays an important part in the modern economic activities. The different productive agencies, be they extractive dealing with the farm, the mines and the forests, or manufacturing, converting raw materials into finished products, or transport, carrying men and materials from one place to another, are all directly concerned with banking and look to it for credit and other facilities. Even an ordinary person has a link with a bank either as a depositor or a borrower of money.

Banking in ancient India

Coming to the ancient India, i.e. about two and a half millennium ago, we find banking in its rudimentary state. Institutional banking was non-existent. Individuals looked after it. It was just like indigenous banking of to-day. It can be studied under the following heads :—

1. Loanable funds
2. Lending of money
3. Receiving of deposits.

1. Loanable funds

References in the texts show that the rich and wealthy persons (Śreṣṭhis and Vaṇiyas) carrying on business amassed huge wealth which they used for three main purposes. The first purpose was to hoard a portion of the wealth to be used in time of need. The second was to use the money in business as capital and multiply it. It also included lending of money on interest. The third purpose was to use the wealth for fulfilling the personal wants comprising necessities, comforts and luxuries. The Upāsakadaśāṅga Sūtram mentions ten Gāthāpaties who were bestowed with rich fortunes and had a huge wealth which they used for triple purpose of hoarding, investing and spending. The first Gāthāpati, Ānanda of Vaṇiyagāma had total wealth of twelve crore Hiraṇya (gold

coins).[1] He hoarded one-third of the amount, i. e. four crore 'Hiraṇya' as reserve (Nihāṇa) and spent another one-third in meeting his expenses over articles of needs and luxuries. The remaining one-third i. e. four crore 'Hiraṇya' (gold coins) was used for lending and investment in business in order to multiply the sum.[2]

Thus, the rich Gāthāpatis and Śreṣṭhis earmarked a portion of their wealth for investment in business and lending purpose. The Bhagavatisūtra mentions the well to-do Śrāvakas (house holders) of the town of Tuṅgikā, who increased their wealth by banking business. (Āoga—dvigunādi vṛdhyā artha pradhāṇaṁ)[3] Generally one-third of the wealth was set apart by the Gāthāpatis for investment and loan purpose. Narration in Upāsakadaśāṅga Sūtram shows that all the ten Gāthāpatis invested about one-third of their wealth in business which included money lending.

2. Lending of money

Money lending was considered as an honest business. The Vaṇikas gave money to the people on loan (ṛṇa).[4] The loan was given in the presence of a witness or a surety (Sākṣī or pratibhū).[5] Interest charged was generally heavy and sometimes it was as high as to make the principal double (duguṇa) every year.[6] Though there were prescribed limits to the interest chargeable by the lenders[7], it was not very much followed. The State ordinarily did not interfere in matters concerning money lending. This must have caused untold misery to the borrowers who were at the mercy of rapacious usurers charging very high rates of interest The Vaṇikas treated the debtors mercilessly for non-repayment of loans. They even whipped them to get their money back.[8] The debtors unable to repay the debts were made to work as slaves (aṇaya).[9] The Piṇḍa Niryukti describes how a widow who purchased some oil from a merchant had to serve as a slave-girl on account of non-payment of the price of the oil.[10] The slaves had to work hard in the fields and workshops of their creditors. Sometimes, however, the

1. *Cf.*, *Upāsakadaśāṅga Sūtram*, Chap. I, S. 4, p. 9.
2. *Cf.*, *Idem.*
3. *Cf.*, *Vyākhyā Prajñapti*, Part II, Chap. V, S. 106, p. 238.
4. *Cf.*, *Niśītha Sūtram*, Vol. III, V. 3676, p. 263.
5. *Cf*, *Ibid.*, Vol. III, V. 3724, p. 274.
6. *Cf.*, *Ibid.*, Vol. III, pp. 340 and 394.
7. *Cf*, Jain, K. C., *op. cit.*, p. 313.
8. *Cf.*, *Niśītha Sūtram*, Vol. III, V. 3704, p. 270.
9. *Cf.*, *Piṇḍa Niryukti*, V. 319, p. 60.
10. *Cf*, *Idem.*

debtors were relieved after a partial payment of the debt. It is stated that if the debtor (dhāraṇiya) went abroad and due to ship-wreck or other calamity returned home without any money, he was not liable to repay the loan.[1] This means that repayment of loan advanced for foreign trade depended on the safe return of the merchant with his cargo and sale proceeds. Thus, there was an element of insurance too, in such advances.

References in the texts show that loan was granted both for consumption and for production purposes. The rich and affluent Śreṣṭhis and Gāthāpatis described as saviour of the people must be advancing money to the needy persons for their trade and callings. In Jñātādharmakathāṅga Sūtram we find Dhanya Sārtbavāha announcing to advance money to the needy traders who were willing to accompany the Sārtha (caravan of traders) for trading purposes.[2] There is mention of Sārthavāhas of Rāyagiha (Rājagir) who lent money with a view to double their principal.[3]

3. Receiving of deposits

Receiving of deposits is an important function of banking. A banker is one who besides lending money, receives deposits. In ancient days we find this function also being discharged by the Śreṣṭhis, Vaṇikas and Sārthavāhas. People reposed confidence in these persons and deposited their money with them for safe custody. The money thus deposited was called 'Nikkhevaga'[4]. They got back their money on demand. Of course, in some cases the depositors had to return home with a wry face when the banker (Vaṇika refused to recognise him as a depositor. Instances are to be found when the Vaṇikas misappropriated the whole deposit (Nikkhevaga) and the poor depositors found themselves helpless.[5]

We can say that depositing money with Vaṇikas was not safe and as such it is not surprising that people kept their surplus money with themselves and hoarded them underground (ṇihi)[6]. The dishonest bankers were a great stumbling block in the development of banking in ancient India. In the absence of adequate and secured banking facilities, trade and industry could not get full support to make a marked

1. *Cf.*, Jain, J. C., *op. cit.*, p. 111.
2. *Cf.*, *Jñātādharmakathaṅga Sūtram*, Vol. III, Chap. XV, S. 2, p. 104.
3. *Cf.*, *Ibid.*, Vol. I., Chap. II, S. 2, p. 572.
4. *Cf.*, *Niśītha Sūtram*, Vol. I, V. 292, p. 102.
5. *Cf.*, *Idem.*
6. *Cf.*, *Ibid*, Vol. III, V. 4312, p. 387.

headway in those days. The usurious rate of interest coupled with dishonest practices thwarted the growth of banking in ancient India.

We also find that there was no specilisation in banking business. A lender advanced loan to persons for various purposes e. g. agricultural, industrial, trading or for consumption purposes. He must have been primarily guided with the return of his money and interest. In certain cases, the lender also lent with a view to promote agriculture, industry or trade in the country. Thus, the idea behind lending was two fold—first, to get interest and secondly, to help develop the economic activities. But by and large the main intention was to multiply their capital by charging high rate of interest. However it is proved beyond doubt that banking constituted one of the economic activities in ancient days and it did help in carrying on economic activities.

Currency

The use of currency by the people anywhere at any time suggests the existence of a government. The maintenance of law and order is the prime requisite for the safe transmittance of currency from one place to another. The canonical texts mention the use of coins made of gold, silver, and copper.

Issue of Coins

The State had the power and responsibility of manufacturing and issuing coins. However, there are evidences to show that some of the Śreṇis (guilds) also minted and issued coins.[1] The Śreṇis took active interest in developing trade and commerce and it seems that the coins were first introduced by the Śreṇis (trade guilds) and the goldsmiths. Coins found at Taxila bear the word 'Negama' which proves that the Śreṇis (nigamas) issued coins.[2]

In the beginning the administration was indifferent on this issue and the issue of coins was continued by the Śreṇis for a pretty long time. Eventually, with the growth of trade and commerce and growing circulation of coins, the State was tempted to issue coins and thus, both the king and the Śreṇis undertook this work. Hence, it can be safely said that the issue of coins was never a State monopoly at that time.

Methods of manufacturing coins

We find that the coins at that time were manufactured by two different methods. The first mode of fabrication was to beat out a piece of metal (generally silver) into a flat plate of certain thickness and then cut off narrow strips of about half an inch or more in width. Each

1. *Cf.*, Upādhyāya, V., *Bhāratīya Sikke*, p. 6.
2. *Cf.*, *Ibid.*, p. 37.

strip was then cut into separate equal sized pieces which were brought down to a fixed weight by cutting small bits off one or more corners of the pieces.[1] Different symbols were then stamped on the surface of the metals. Such coins were punchmarked coins. The second method of manufacturing was to shape the metals in moulds. The coins thus manufactured were cast coins.

Punchmarked coins

The punchmarked coins were the earliest coins of India. It is difficult to say precisely how old were these coins. These were certainly current in the time of Lord Mahāvīra i. e. in the sixth century B. C.[2] Sir A. Cunningham sees no difficulty in thinking that they might mount as high as 1000 B C. He says,

> "They certainly belong to the very infancy of coinage. The only money that could have preceded them would have been blank pieces of silver, which were weighed out".[3]

The punchmarked coins were called 'kāhāvaṇa'[4] (Kārṣāpaṇa) from 'Karṣa', the weight, and 'āpaṇa', the custom or the market.[5]

In the beginning these coins were small flat pieces of silver either square or round adjusted to a certain fixed weight of somewhat more than 56 grains.[6] The copper kārsāpaṇa weighed 80 rattis which was equal to 144 grains.[7] The Hindus and the Buddhist literature also frequently refer Kārṣāpaṇa.

Several hoards of punchmarked coins have been found at different places in India, for example, at Taxilā, Mathurā, Eran (old decayed city on the south bank of river Bīnā, 45 miles north west from Sāgar), Kausāmbī, Rājagṛha, etc. The coins bear different symbols on the obverse side such as a bull or a cow, a tree, a square tank, a snake, a peacock, an elephant, a palm tree, a lotus flower, a female figure, the moon, the sun, etc. The different symbols were probably the private marks of ancient coin fabricators. The number of these symbols are so great, nearly three hundred, that their origin was probably due to several different causes.[8]

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1. *Cf.*, Cunningham. A., *Coins of Ancient India*, p. 43.
2. *Cf.*, Jain, K. C., *op. cit.*, p. 306.
3. Cunningham, A., *op. cit.*, p. 43.
4. *Cf.*, *Uttarādhyayana Sūtra*, Vol. II, Chap. XX, V. 42, p. 902.
5. *Cf.*, Cunningham, A., *op. cit.*, p. 42.
6. *Cf.*, *Idem.*
7. *Cf.*, Upadhyaya, V., *op. cit.*, p. 27.
8. *Cf.*, Cunningham, A. *op. cit.*, p. 58.

The reverse side of the coins was left blank at the time of fabrication and gradually punched with different symbols at different times. The punchmarked coins are generally found in silver and copper. The coins found in hoards are largely in silver which indicate their larger use in those times. Gold Kārṣāpaṇas might also have been issued like silver and copper ones. Their non-discovery is not a decisive argument against their existence.[1]

Cast coins

Cast coins were also manufactured in gold, silver and copper and contained different symbols like the punchmarked coins. The die of their manufacture was engraved with different symbols which produced the desired type of coins. A large number of copper cast coins of ancient India have been found at different places viz. Taxilā, Ayodhyā, Ujjain. Eran, Banāras, etc.[2]

Types of coins

Different types of coins (Nāṇaka)[3] prevalent at that time may be studied under the following heads :—

(a) Gold coins
(b) Silver coins
(c) Copper coins
(d) Other coins.

(a) Gold coins

Among the gold coins 'suvaṇṇa' (suvarṇa) or 'dīnāra'[4] and 'suvaṇṇa masaka' have been mentioned. The words 'hiraṇṇa' and 'hiraṇṇa-suvaṇṇa' also occur in the texts. The term 'hiraṇṇa' denoted money in general but when associated with suvaṇṇa (i. e. hiraṇṇa-suvaṇṇa), it meant gold coins.[5]

Suvaṇṇa or Dīnāra was the gold coin commonly used in eastern India (pūvvadesa). The mention of "Pītamnāma-Suvarṇa tanmayaṁ vā nāṇakaṁ bhavati, yathapūrva deśe Dīnāraḥ"[6] certifies its use Another coin known as 'kevaḍika' has been mentioned which was possibly of gold and was in circulation in pūvvadesa (Eastern India).[7] The Jaina texts

1. *Cf.*, Jain, K. C., *op. cit.*, p. 310.
2. *Cf.*, Cunningham. A. *op. cit.*, p. 60.
3. *Cf.*, *Bṛhat Kalpa Sūtram*, Vol. II, p. 573.
4. *Cf.*, *Niśītha Sūtram*, Vol. III, V. 3070, p. 111.
5. *Cf.*, Bhaṇḍārkara, D. R., *Ancient Indian Numismatics*, p. 51.
6. *Cf.*, *Bṛhat Kalpa Sūtram*, Vol. II, p. 573.
7. *Cf.*, *Ibid.*, p. 573.

have made no distinction between the value of Suvaṇṇa and Dīnāra and as such they may be treated at par. On the basis of evidences of the Kuśāna and Gupta coins also, a Suvarṇa (Suvaṇṇa) had a value equal to that of the Roman gold coin, 'Dinarious' and it weighed 123 grains.[1] According to others the 'Suvarṇa' weighed 16 māsās (80 rattis) which is equivalent to 144 grains.[2]

'Suvaṇṇamāsaka' (Suvaṇṇamāsaya) was the smaller denomination of Suvaṇṇa or Dīnāra. This gold coin weighed only one māsā (5 rattis).[3]

(b) Silver coins

Among the silver coins 'Rūvagas' (Rūpakas) have been generally mentioned in the texts. It seems that it was the most popular silver coin of the time. We find different regions having rūvagas of different values with different names. For example, the rūvagas of Dīva Island[4] was called 'Diviccaga' or 'Sābharaga', that of Uttarāpatha, 'Uttarāpahaga', of Pāṭaliputra, 'Pāḍaliputtaga' or 'Kusumapuraga', of Dakkhināpatha, 'Dakkhināpahaga' and of Kāñcipurī, 'Nelao' or 'Nelaka'.

The relative value of different rūvagas (silver coins) of the regions can be ascertained from the following table :—

2 Sābharaga or Diviccaga	= 1	Uttarāpahaga
2 Uttarāpahaga	= 1	Pāḍaliputtaga[5]
	and	
2 Dakkhiṇāpahaga	= 1	Kāñcipurī Nelaka
2 Kāñcipurī Nelaka	= 1	rūvaga of Kusumanagara (Pāḍaliputtaga)[6]

Thus, it appears that the Pāṭaliputra rūvaga was of highest value among the silver coins in as much as one Pāḍaliputtaga (coin) was equivalent to two rūvagas of Uttarāpatha and to 4 Diviccaga. Similarly one Kusumanagara (Pāṭaliputra) coin equalled 2 Nelakas (Kāñchipurī) or 4 rūvagas of Dakhināpatha.

Another silver coin mentioned is 'Dramma' which according to commentary on Bṛhat Kalpa Sūtram, was prevalent in Bhillamāla[7] (Bhinamāla in District Jodhpur).

1. *Cf.*, Sikdar, J. C , *op. cit.*, p. 316.
2. *Cf.*, Upādhyāya, V., *op. cit* , p. 27.
3. *Cf.*, Bhaṇḍārkara, D. R., *op. cit.*, p, 53.
4. *Cf.*, *Bṛhat Kalpa Sūtram*, Vol. IV, V. 3891, p. 1069.
5. *Cf.*, *Idem.*
6. *Cf*, *Ibid.*, V. 3892, p. 1069.
7. *Cf*, *Ibid.*, Vol. II, p. 573.

(c) Copper coins

Copper coins seem to be prevalent in large number at that time. The ancient copper coins found today are mostly cast coins. The punchmarked copper coins are rare.[1]

Copper (Tamma) coins of the time mentioned in the texts are 'Kāhāvana' and 'Kagiṇi'. Kāhāvaṇa or Kārsāpaṇas were punchmarked coins in different metals. The copper kārṣāpaṇa weighed 80 rattis i.e. 144 grains.[2] It was prevalent in Rājagṛha at the time of king Bimbasāra.[3] Another copper coin mentioned is kagiṇi (or kākiṇi). It was a coin of small denomination. Kauṭilya mentions kākiṇi as a copper coin equal to 1/4 of a copper kārsāpaṇa.[4] According to commentary on Bṛhat Kalpa Sūtram it was a copper coin used in Dakṣiṇāpatha (south).[5]

(d) Other coins

Besides gold, silver and copper coins we find the prevalence of 'Kavaḍḍaga'[6] (cowries or shells) at that time. They possessed small value and as such were used for small payments. This term was also used to denote money in general.

The Niśītha Cūrṇi mentions of a leather coin (cammalāto)[7] issued by King Vammalāta which was in used in Bhillamāla (Bhinmāla in District Jodhpur).[8]

Counterfeit coins

References in the texts reveal that counterfeit coins were also manufactured and circulated by unauthorised persons. The texts mention about false rūvagas.[9] Uttarādhyayana Sūtra and many other texts refer to 'kūḍakāhāvaṇo' or 'kūṭa kārṣāpaṇa'[10] (false coins). The goldsmiths (Hairaṇyaka) could easily detect these coins.[11]

Though some unscruplous persons tried to manufacture and circulate false coins in those days, it seems that people could detect the counterfeit coins and as such these coins were not in general circulation.

1. *Cf.*, Cunningham, A., *op. cit.*, p. 59.
2. *Cf.*, Upādhyāya, V., *op. cit.*, p. 27.
3. *Cf*, *Upāsakadaśāṅga Sūtram*, appendix p. 410.
4. *Cf.*, Kautilya, *Artha Śāstra*, p. 95.
5. *Cf.*, *Bṛhat Kalpa Sūtram*, Vol. II, p. 573.
6. *Cf.*, Idem.
7. *Cf.*, *Niśītha Sūtram*, Vol. III, V. 3070, p. 111.
8. *Cf.*, Jain, K. C., *Ancient Cities and Towns of Rājasthān*, p. 156.
9. *Cf.*, *Āvaśyaka Cūrṇi*, p. 550.
10. *Cf*, *Uttarādhyayana Sūtra*, Vol. II, Chap. XX, V. 42, p. 902.
11. *Cf.*, Jain, J. C., *op. cit.*, p. 119.

Public Finance

Public finance primarily deals with government revenue and expenditure. The State has to find out various means of income for its treasury so that it may meet its various obligations e.g. on defence, maintenance of law and order, administration, public welfare, etc. We shall first discuss the government revenue in ancient India as depicted in the Jaina canonical texts.

Government revenue

The royal treasury full of money, precious metals and foodgrains was considered absolutely essential to a healthy and powerful State. A king with an empty treasury (Kosavihiṇo rāyā) was considered weak and was bound to be ruined. This finds a graphic description in the reference, "att ābhāve kosa vihiṇo rāyā viṇṇassati"[1]. The treasury of the king consisted of two important parts :—

(i) Kośa (treasure house)—where the currency, gold, silver, jewels, etc, were preserved[2]

(ii) Koṭṭhāgāra—where various foodgrains were stored.[3]

The State revenue was collected both in cash and in kind. The collection of revenue in terms of foodgrains was made partly to facilitate the payment of State dues and partly to conserve stock to alleviate the distress of the people in times of calamities like drought and famine which were not unusual in those days. It is indicative of the obligations of the rulers and as such, the ancient States may be construed as the welfare States.

The sources of State revenue may be studied under the following heads :—

(i) Income from taxation
(ii) Income from other sources
(iii) Public debts.

(i) Income from Taxation

The texts reveal that the king had the right of taxation. The words 'Ussukkaṁ' (without fees) and 'Ukkaraṁ' (free of taxes) occurring in the texts clearly indicate the existence of taxation and revenue collection by the State.[4]

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1. *Niśītha Sūtram*, Vol. III, V. 4799, p. 507.
2. *Cf.*, *Ibid*, Vol. I, V. 129, p. 52.
3. *Cf.*, *Idem*.
4. *Cf.*, *Vyākhyā Prajñapti*, Part XI, Chap. XI, S. 429, p. 998.

Taxation was considered justified because the king gave protection to his subjects for which he collected taxes. This principle has been accepted in modern canons of taxation as well. Adam Smith, the father of modern Economics states,

> "The subjects of every State ought to contribute towards the support of the government, as nearly as possible in proportion to their respective abilities; that is, in proportion to the revenue which they respectively enjoy under the protection of the State."[1]

It is considered as first canon of taxation. A benevolent king may realise the taxes for the welfare of his subjects. He is not to be oppressive or unjust in matters of revenue collection lest it amounts to killing the hen that lays the golden eggs. The Brāhmanic texts of the time also enunciate various principles regarding taxation and collection of land revenue.

Kinds of taxes

The Jaina canonical texts mention eighteen kinds of taxes levied in those days. The taxes were as follows :—

Number	*Articles Taxed*
1.	cows (go kara)
2.	buffaloes (mahisa kara)
3.	camels (uṭṭi kara)
4.	other animals like asses (pasu kara)
5.	goats and sheep (chagali kara)
6.	grass (tana or tṛna)
7.	straw (palāla or puvāla)
8.	husk (bhūsā)
9.	timber (kaṭṭha)
10.	fuel (aṅgara)
11.	plough (siyā or lāṅgala)
12.	house (umbara or dehli)
13.	pasture land (janghā or jangā)
14.	bullocks (balivadda)
15.	earthen pots (ghaḍa)
16.	hides and skins (camma)
17.	community feeding, crops, etc. (cullaga)
18.	casual production (auttika kara or uppatti kara)[2]

These taxes were levied mostly on sale or production of commodities. For example, tax on cows (go kara) was realised in form of a

1 Smith, Adam, *The Wealth of Nations*, 5th Ed., Vol. II, p. 310.
2. *Cf.*, *Antakṛta Daśāṅga Sūtram*, Chap. I, S. 1, pp. 5-7.

cow when a certain number of cows were sold. It could also be realised as a portion of sale proceeds of cows.

The eighteen types of taxes were levied in villages only.[1] The towns (nagaras) were free from these taxes. 'Nagara' (town) has been described in the texts as a place of 'no tax' (Na+kara=Nakara or Nagara)[2] meaning thereby that they were not required to pay such kinds of taxes. Other references, however, show that the town people had to pay taxes on houses, trade, etc.

This shows that these taxes were levied mostly on agriculture, domestic and farm animals, village houses and village products. This also shows the predominance of agro-economy at that time. We may now discuss some important taxes of the time on the basis of references found in the texts.

Land tax

Land tax or land revenue was an important source of income to the royal exchequer. Generally speaking, the State took one sixth of the land as tax[3]. This rate, however, differed according to the fertility of the soil, price of the produce, cost of production, etc The Brāhmaṇic texts of the time speak of different rates e. g. one-sixth, one-eighth and one-twelfth of the crop.[4] This is one of the significant revelations and speak about the scientific nature of land tax system.

House tax

The texts speak of a house-tax levied in those times. The commentary on the 'Piṇḍa Niryukti' mentions that a king should collect two 'drammas'[5] (silver coins) every year from each house.[6] There is reference of a merchant who built a house in Rājagṛha. After his death his sons could not pay the house tax due to poverty. They gave the house to Jaina Yatis and put themselves in a hut nearby. The Bṛhat Kalpa Bhāṣya mentions,

> "Iḍhittaṇe āsi gharaṁ mahallaṁ,
> kāleṇa taṁ khīṇa dhaṇaṁ ca jāyaṁ,
> te ummarīyassa bhayā kuḍie.
> dāuṁ ṭhiyā pāsi gharaṁ jaīṇam."[7]

1. *Cf.*, *Bṛhat Kalpa Sūtra*, Vol. II, V. 1088, p. 342.
2. *Cf.*, *Ibid.*, V. 1089, 342.
3. *Cf.*, *Vavahāra Bhāṣya*, Vol. I, p. 128.
4. *Cf.*, *Manu Smṛti*, VII, 130-132 (quoted in Maity, S. K., *op. cit.*, p. 78.).
5. *Supra*, p. 97.
6. *Cf.*, Jain, Jagadīśa Candra, *op. cit.*, p. 110.
7. *Bṛhat Kalpa Sūtram*, Vol. IV, V. 4770, 1282.

There is another reference of the king of Soparaya (Śūrpāraka) levying house-tax (ṇigama kara) but the five hundred families of merchants residing there decided not to pay the new tax levied on them and in protest preferred self-immolation by burning themselves down in order to save their progeny from paying the tax. It can be verified from the reference,

> "Sopārayammi nayare, raṇṇā kira
> maggio ya ṇigama karo,
> akarotti maraṇa dhammo,
> bālatave dhutta sanjogo."[1]

Bṛhat Kalpa Bhāṣya mentions a levy of house tax at the rate of one rūpaka per house.[2]

The community's decision to self-immolation against the payment of house tax proves the rigour with which the taxes were realised and the prevalence of an efficient administrative machinery.

Tax on Trade and Business

Besides different taxes levied in villages and the house-tax which covered both the rural and urban population, there was tax on sale of commodities to be paid by the merchants residing generally in towns and cities. Both the sea-faring merchants and traders engaged in home trade were required to pay taxes on the sale of merchandise. Almost every article of trade was taxed by the State. There were regular check-posts or custom-houses (Suṁkaṭhāṇa) where all the commodities of trade were checked and taxed by the toll-superintendents known as suṁkiya (Śaulkika).[3]

The traders engaged in foreign trade were subjected to tax on the import of commodities.[4] Thus, custom duties in some form existed in ancient India. It is significant that there is mention of imposition of duties on imports of commodities and not on exports. This shows that the fiscal policy of the State was export-oriented.

(ii) Income from other sources

The State exchequer had other sources of revenue too. These may be studied under the following heads :—

(a) Gifts and presents

(b) Treasure-troves

1. *Nisītha Sūtram*, Vol. IV, V. 5156, p. 14.
2. *Cf.*, *Bṛhat Kalpa Sūtram*, Vol. IV, V. 4770, p. 1282.
3. *Cf.*, *Nisītha Sūtram*, Vol. IV, V. 6518, p. 344.
4. *Supra*, p. 78.

(c) Fines

(d) Unclaimed property

(a) Gifts and presents

Gifts and presents from persons provided a good income to the State. There was a general practice among people to offer presents to the king. The rich persons and kings of different countries (Janapadas) invited in State functions generally offered presents to the king. There is a reference of kings invited on the occasion of the birth of 'Megha Kumāra' who offered costly presents like horses, elephants, jewels, etc. to king Śreṇika of Rājagṛha.[1] People also gave presents to the king to avail of some concessions. The king was pleased to receive the presents and generally granted the desired privileges to such persons. The traders were granted permission to trade without paying taxes when they pleased the king by offering costly presents to him.[2] An affluent 'śreṣṭhi' named Nanda of Rājagṛha went to king 'Śreṇika' with costly presents to obtain his permission for constructing a tank (puṣkariṇi) in Rājagṛha.[3] We find reference of 'Dhanya Sārthavāha' of being freed from imprisonment after sending costly presentations to the king through his friends and relatives.[4]

(b) Treasure troves

The State had its full right over the treasure troves (ṇihi). A king confiscated the property of a subject who did not inform the king on finding out a treasure-trove.[5] The treasure-troves sometimes yielded a good revenue to the exchequer.

(c) Fines

The king imposed fines upon the erring people. Judicial fines for crimes committed by people added to the State resources.[6] The texts mention the word 'daṁḍa' (penalty) and 'kudaṁḍa' (small fines).[7] The imposition of fines and their realisation speak of the administrative efficiency and it describes the developed state of society.

(d) Unclaimed property

The king took over the property and wealth of persons who died without any successor.[8] This also yielded some revenue to the State.

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1. *Cf.*, *Jñātādharmakathāṅga Sūtram*, Vol I, Chap, I, S. 20, p. 250.
2. *Cf.*, *Ibid.*, Vol. II, Chap VIII, S. 24, p. 377.
3. *Cf.*, *Ibid.*, Vol. II, Chap. XIII, S. 2, P. 740.
4. *Cf.*, *Ibid.*, Vol. I, Chap. II, S. 11, p. 647.
5. *Cf.*, *Niśītha Sūtram*, Vol. IV, V. 6524, p. 345.
6. *Cf.*, *Ibid.*, Vol. I, V. 378, p. 130
7. *Cf.*, *Jñātādharmakathāṅga Sūtram*, Vol. I, Chap. I, S. 20, p. 246.
8. *Cf.*, Jain, Jagadiśa Candra, *op. cit.*, pp. 112-113.

Sometimes the entire property, movable and immovable of a person who renounced the world went to the king.

Collection of taxes

The taxes were collected both in cash and in kind. It could be paid in the form of cash, cattle, foodgrains, or other commodities. Payment in cash was preferred. There is a reference of a king demanding '**ruvvagakara**' i e. payment of taxes in money.[1]

There is mention of sumkapāla'[2] or sulkapāla (tax collectors) who were government officials in charge of revenue collection. At some places district officers (ratthakūḍa)[3] were also empowered to collect t xes.

There is also reference of oppressive tax collectors in those days. The 'Vipāka Sūtra' mentions about a district officer (raṭṭha kūḍa or Rāstra koota) named 'Ekkai' who harassed and tortured the people of five hundred villages under him for paying different kinds of taxes. He resorted to illegal exactions (ukkoḍahi) and defaming persons (tajjemānc)[4]. Despite efficient administration, cases of corruptions have also come to our notice. Thus, the society was not free from the vices like bribery, etc.

At times, the king took a stern attitude in case of default in tax payment. The king of Sopāraya once ordered his tax-collectors to burn down the houses of the merchants when they refused to pay taxes.[5] There is another reference of a king who attacked another king under him for non-payment of taxes.[6]

Remission of taxes

The king had the right to postpone payment of taxes or even remit them. On certain occasions of merriment, particularly on the birthday ceremony of a newly born prince, the king ordered the remission of taxes and custom duties ('Ukkaraṁ' and 'Ussukaṁ'). The Jñātādharmakathāṅga tells us about king Seniya (Śreṇika) of Rājagṛha who proclaimed remission of all taxes on commodities, houses, farms, etc. for ten days on the birth of a child to his queen, Dhāriṇi Devi.[7]

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1. *Cf.*, *Niśītha Sūtram*, Vol. IV, V. 5156, p. 14.
2. *Cf.*, *Uttarādhyayana Tīkā*, Vol. III, p. 71.
3. *Cf*, *Vipāka Sūtram*, Chap. I, p. 52.
4. *Cf.*, *Ibid.*, Chap. I, p. 54.
5. *Cf.*, *Bṛhat Kalpa Sūtram*, Vol. III, V. 2506, pp. 708-709.
6. *Cf.*, *Āvaśyaka Cūrṇi*, Vol. II, p. 190.
7. *Cf.*, *Jñātādharmakathāṅga Sūtram*, Vol. I, Chap. I, S. 20, p. 238.

The study of the texts also reveals that the traders sometimes offered rich presents to the king to please him and get exemption from taxes. The Jñātādharmakathāṅga refers to sea-faring merchants of Campā who presented costly gifts of jewels and necklace to the king of Mithilā and secured tax exemption.[1] The king also allowed exemption of taxes when he was pleased with the traders. There is reference in Jñātādharmakathāṅga of tax exemption given by king Kanakaketu of Hastiśīrṣa to sea-faring merchants who brought striped yellow coloured horses (Zebra) from Kāliyadıva[2] (Zanzibār in E Africa).

Tax evasion

The State kept strict vigilance in the matter of tax realisation. Still some persons tried to evade taxes. The tax dodgers were severely dealt with. The trader Acala of Beṇṇāyaḍa on return from Persia tried to conceal costly articles like gold and jewels in the bags of betelnuts to avoid imposition of tax, but his game was detected and he was put behind the bars.[3] The society, also did not approve such immoral and anti-state acts and hence the tax-evaders, even if affluent, were not held in high esteem.

(iii) Public debt

Public debt means borrowing by the State from the public. In modern times public debt is an important source of Government finance. We did not come across any reference in the canonical texts to show that the king borrowed from his subjects to meet the financial obligations of the State. This meant that either the State had enough revenue or on account of paucity of fund the progress was slow.

Government expenditure

Public expenditure is an important aspect of Public Finance and many principles are observed by the State while spending money. An important principle is to spend public money in a manner so as to provide maximum benefit to the society. We do not have details about government expenditure in ancient India but stray references show that a benevolent king always cared for his subjects and spent money over their welfare.

The State machinery was organised for the sustenance of social order, executive an judicial functions and defence of the country. It was alive to the problems concerning progress of society and the people.

1. *Cf.*, *Ibid*, Vol. II, Chap VIII, S. 24, p. 377.
2. *Cf.*, *Ibid.*, Vol. III, Chap. XVII. S. 4, p. 623.
3. *Cf.*, *Uttarādhyana Tīkā*, Vol. III, p. 64.

The basic function of the State was to provide protection (pālayāhi).[1] Hence it was the duty of the State to defend its territory and sovereignty from external enemies and to protect life, property and honour of the people from internal disruptive forces. The State had to provide against natural calamities like famine, flood, earthquakes, etc. It also made efforts to remove poverty, illiteracy and diseases so as to make the life of its citizens happy, healthy and wealthy. The State activity covered the spiritual, cultural, social and economic upliftment of the people. The State exchequer helped the poor and the destitute and implemented programmes of public welfare. This was done in keeping with the financial resources of the State.

The king first of all had to look to defence from external attacks. Wars and frontier troubles were very common in those days and hence, the State maintained a well-equipped and strong army. The texts refer to four types of army viz. cavalry (haya), elephants (gaya), chariots (raha) and infantry (pāyatta)[2] on which the State had to spend huge money. Various kinds of weapons used for offensive and defensive purposes lead us to believe that the exchequer spent a large sum on defence.

The Government was also alive to the problem of internal peace and security. It must also be spending a huge amount of money over administration. The king honoured the learned people and amply rewarded them from time to time. The king spent a large sum over the members of the Council of Ministers (mantri pariṣad) who advised the king on different matters.

Thus, we can say that the State after meeting its various obligations on defence, internal security and administration spent money for the welfare of the people according to the fund available. The degree of expenditure on various heads differed from king to king and from time to time. The more benevolent king looked more to the welfare of the people while some others devoted themselves more on warfare.

From the above study of banking, currency and finance we find that the States in ancient India were fairly alive to such aspects of the economy which helped the development of agriculture, industry and trade and also in the smooth running of the administration. The growth in different economic fields led to the economic betterment of the people but in order to know the real effect of the economic development, we must also study the nature of distribution of wealth and income in the society that is, whether it was equitable and just. We may also study the nature of concentration of economic power in those days.

1. *Cf.*, *Bhagawati Sūtra*, Vol. IX, Chap. IX, S. 1. p. 306.
2. *Cf.*, *Uttarādhyayana Sūtram*, Vol. II, Chap. XVIII, V. 2, p. 723.

CHAPTER VI

THE ECONOMIC STRUCTURE DISTRIBUTIONAL ASPECT

In the preceding chapters we have studied in detail the state of agriculture, industry, trade and economic conditions of the people in ancient India. We have found that the canonical texts provide ample proof of a fair degree of economic development in that time. The growth in agriculture, industry, trade and transport led to economic prosperity of the country. The indigenous banking system gave a boost to the economy of the country and the currency system helped it further. We also get vivid descriptions of wealth and affluence in the country which denote a high degree of prosperity in ancient India. But in order to know the real prosperity, we must study how far the society in general was deriving benefit from this prosperity. In other words, we must find out the pattern of distribution of wealth and income in the society and see whether the distribution was equitable and just or there was disparity in it. We should also endeavour to locate the points where the economic power rested and see whether this power was concentrated with a few persons or it was decentralised.

Distribution of Wealth and Income—its significance

The study of distribution of wealth and income in the society has assumed a great significance in modern time. It is widely accepted that mere increase of wealth in a country unaccompanied by its equitable distribution does not lead to the betterment of the lot of the masses. If left to itself, the rich persons go on accumulating large wealth and get a large income enabling them to lead their life in luxury. On the other hand, there is a big army of poor people in the society with little or meagre income spending their life in abject poverty. Thus, two distinct classes of people are found in the society—one the 'haves' with all the affluence and luxuries and the other, 'have nots' with hardly having income to procure the bare necessities of life. Karl Marx gave a call to annihilate the 'haves' and to end the exploitation of the poor by the rich. The modern economic thinking is unequivocally in favour of a just and proper distribution of wealth, so that everybody could enjoy the fruits of economic advancement in a country. Pigou, in his celebrated book, 'Economics of Welfare', has shown that transfer of national dividend from the rich to the poor increases the economic welfare of the people. In this context he has aptly observed,

"We must not hesitate, therefore, to conclude that, so long as the dividend as a whole is not diminished, any increase, within wide limits, in the real income enjoyed by the poorer classes, at the expense of an equal decrease in that enjoyed by the richer classes, is practically certain to involve an addition to economic welfare."[1]

The marginal utility of money is surely greater to a poor man in comparison to a rich person. Hence besides making efforts to increase the GNP (Gross National Product) and the National Wealth of the country, efforts should also be made to distribute them equitably among the people.

It must be understood that equitable distribution of wealth and income is different from equal distribution. Equitable distribution means a proper and just distribution so that everybody is able to enjoy the fruits of national income, which is derived by the combined efforts of all. Wealth and income are the result of the efforts of different factors of production e. g. land, labour, capital and enterprise and as such each of them should get proper share in the form of rent, wages, interest and profit. The Government tries to maintain a balance in distribution of wealth by taxing those who have more of wealth and income. The amount so collected is spent for the welfare of the masses which virtually amounts to transfer of wealth from the rich to the poor. Thus, in order to establish a welfare society, a mechanism must be there so that wealth and income may be equitably distributed among the people. Measures for raising income levels of the weaker sections and bridging the wide income differentials is essential to enable the masses to meet their needs and also participate enthusiastically in national development activities. If it is not done, the financially weak will become weaker bringing social disharmony in its wake. It may ultimately bring mass resentment and even revolution directed against the wealthy people.

Distribution of wealth and income in ancient India

From references found in canonical texts we can say that wealth and income in ancient India were not equitably distributed amongst the people. The developed state of economy of the time brought prosperity to the country. The agricultural, industrial and other advancements added to the wealth and income of the people, but the advantages were not shared equitably by the people. Despite material progress and prosperity, we find persons suffering from discontent and poverty. While on the one side there were kings, nobles, rich seṭṭhis (śreṣṭhis), gāhāvais (gāthāpatis), satthavāhas (sārthavāhas), vaṇiyās (vaṇikas), etc.

1. Pigou, A. C., *Economics of Welfare*, p. 96.

amassing huge wealth and rolling in luxuries, there were on the other side, poor peasants, slaves and hired labour leading a miserable life.

The number of wealthy persons seems to be limited. At the top were the the kings and monarchs who led a rich and luxurious life. Their palaces were magnificent, well decorated and studded with various kinds of gems and jewels. They contained all the material possessions for worldly enjoyment. An important part of royal pomp was the king's harem (antaḥpura or oroha) where a large number of young girls and women were kept and maintained for the pleasure of the king. The kings were fond of enriching their harems with beautiful women and girls without any consideration of their caste or family background. The Bṛhat Kalpa Bhāṣya narrates about five hundred girls of a town, who went out to worship Lord Indra in a festival, but were taken away to the harem by the order of prince, Hema Kumāra, who was attracted to see the girls On receiving complaints from the parents of the girls, the king managed to please them by marrying the girls to the prince.[1] The harem comprising of queens, dancing girls and other women was an object of royal pomp and prestige and as such was carefully guarded. A large number of attendants, servants, personal bodyguards (śirorakṣa)[2] and artists were employed to serve and please the members of the royal family. The vivid description in the texts of the royal life shows the pomp and luxury enjoyed by the kings and princes of the time.

Next came a number of rich seṭṭhis (śreṣṭhis), satthavāhas (sārthavāhas), gāhāvais (gāthāpatis), vaṇiyās (vaṇikas) and so on who amassed huge wealth from agriculture, trade and business. The texts refer a number of agricultural and business magnates who led a very luxurious life. Upāsakadaśāṅga mentions ten such gāthāpatis who commanded huge wealth which was used for triple purpose of consumption, investment and hoarding. One of the gāthāpatis was Ānanda of Vaṇiyagāma who had twelve crores of 'Hiraṇṇa' (gold coins) as wealth.[3] Another gāthāpati, Kāmadeo of Campā possessed 18 crores of Hiraṇṇa.[4] The gāthāpati, Saddālaputta of Polāsapura invested one crore Hiraṇṇa in his business of manufacture of earthenwares, kept one crore as reserve and utilised about a crore over his necessities and luxuries.[5] The texts describe that these gāthāpatis along with their friends and relatives

1. *Cf.*, *Bṛhat Kalpa Sūtram*, Vol. V, V. 5153.
2. *Cf.*, *Niśītha Sūtram*, Vol II, p. 234.
3. *Cf.*, *Upāsakadaśāṅga Sūtram*, Chap. I, S. 4, p. 9.
4. *Cf.*, *Ibid.*, Chap. II, S. 90, p. 160.
5. *Cf.*, *Ibid.*, Chap. VII, S 179, p. 271.

commanded huge wealth, name and fame in the society.[1] They possessed almost all the articles of material pleasure e. g. artistic buildings, gold and jewellery, chariots, cattle and other animals, slaves—male and female, food materials of all kinds and so on. We also find traders and sārthavāhas like Dhanya[2], Arahannaka[3] and Mākandī[4] transacting a big business and amassing huge profit and wealth.

On the other hand the depiction of the condition of slaves, hired labour, small traders and peasants, etc. shows the poor economic condition of the general people. The slaves were fully at the disposal of their masters They had to work hard in the homes and fields of their masters. They were not treated well and led a very miserable life. Similar was the economic condition of the hired labour, who had to struggle hard to eke out their livlihood. There is mention of 'Odariya' type of 'sattha' who were caravan of job-seekers wandering from one place to another in search of some livlihood.[5] 'Bhayagas' (labourers) in a large number worked at the command of their employers. They were paid both in cash and in kind They were generally hand to mouth and had not enough money to meet their essential requirements.

The small traders and peasants were also not financially sound. They had to look to śreṣṭhis and vaṇiyās for advance of loan at the time of necessity. We find big Sārthavāhas like 'Dhanya' announcing assistance of money to traders accompanying his Sārtha (caravan of trade). Loans by vaṇikas were advanced for consumption purposes also which shows poor economic condition of a section of the society.

From the above descriptions given in the Jaina canonical texts we can safely conclude that while on the one side there was opulence and affluence in the society, on the other side there was dearth and poverty among the masses. It can be said that the distribution of wealth and income in the society was not equitable so as to make every citizen live in comfort free from economic worries.

Effect of preachings of Lord Mahāvīra

The preachings of Lord Mahāvīra had good effect on wealthy persons and we find a good number of kings, princes, śreṣṭhis, śrāvakas, etc. renouncing the worldly pleasures and practising austerity. Lord Mahāvīra advocated five 'aṇuvratas' (vows) for the general people (i.e.

1. *Cf.*, *Ibid.*, Chap. I, S. 8, p. 15.
2. *Supra*, p. 64.
3. *Supra*, p. 72.
4. *Supra*, p. 74.
5. *Supra*, p. 65.

for non-ascetics). The five 'aṇuvratas' are 'Ahiṁsā, Satya, Asteya, Brahmacarya and Aparigraha."[1] According to the fifth vow, 'aparigraha' (non-possession) a person should limit his possessions and use of worldly things to the minimum. He should gradually go on renouncing material things like property, gold and jewel, clothes, conveyance and so on. We find Ānanda gāthāpati going to lord Mahāvıra and taking vow to limit his consumptions in respect of money, cattle, conveyances, clothes, cosmetics, ornaments, food, drink, etc.[2] There are many references of persons limiting their needs and renouncing the worldly pleasures as a step to achieve 'mokṣa' (salvation). The principle of 'aparigraha' (non-possession) enunciated in Jaina canonical texts directs people to remain contented with a limited number of articles of consumption. It also means a voluntary giving up of surplus money and articles in favour of needy persons. If the principle of 'aparigraha' is followed by a large number of people, the lust for money would go and there would be no concentration of wealth in a few hands, rather the wealth would be widely distributed making the distribution just and equitable. The above principle of 'aparigraha' is a variant of socialism—Voluntary Socialism. Such a principle that advocates self-denial and inspires people to distribute their wealth to others is a greatly improved form of social welfare. This shows that the society during the period was free from the painful tension which we find the modern society suffering from. This variant of socialism—Voluntary Socialism—need be advocated even to-day. With the spiritual background the people of the country have, they should be encouraged to follow it.

'Dāna' (charity) is advocated in the texts as a religious act.[3] The economic importance of 'dāna' is very significant in as much as 'dāna' is a transfer of money and material from the rich to the poor. Charity done on a wide scale, helps in removing the gulf between the rich and the poor and minimises the social tension as well as human sufferings. The religious preachers in ancient India rightly understood the economic significance of 'dāna' and advocated it on religious ground. The compassion shown to the needy produced a salutary effect on the social order and the rich were able to lead a peaceful life by parting away a portion of their wealth. We find 'Dānaśālas' (charity houses) at different places where the needy were given money, food and commodities according to their desire. Such charity-houses were known as 'Kimicchae'[4] which meant "what you want". This shows that the

1. *Cf.*, *Upāsakadaśāṅga Sūtram*, Chap. I, S. 12-17, pp. 21-26.
2. *Cf.*, *Ibid.*, Chap. I. S. 18-38, pp. 26-44.
3. *Cf.*, *Catuḥ Śaraṇa Prakirṇaka*, V. 62, p. 76.
4. *Cf.*, *Dasaveāliyaṁ*, Chap. III; S. 3, p. 47.

charity houses in those days worked in a big way so as to fulfil the needs of the people. In order to lessen the social tension of the modern society we will do well to propogate the institution of ancient Dānaśālās. The Government will do well to incorporate such a provision in the fiscal statute book. It is a fine way of transforming the society by reducing the evils arising out of the inequitable distribution of wealth.

Concentration of Economic Power

Possession of economic power means ownership and control over disproportionately larger proportion of the factors of production by an individual. The different economic resources, both natural and man made, play a vital role in the production and hence those possessing the economic resources are able to control production and marketing of commodities and services in a country. Economic power can be gained by owning more and more economic resources or wealth. In other words, it can be said that a person having a bigger productive wealth is able to command greater economic power in the country.

Concentration of economic power is a phenomenon which is manifested in the economy in certain forms. One such manifestation is the achievement by one or more units in an industry of such a dominant position that it is able to control the market by regulating prices or output. Economic power may also manifest itself in a few industrialists obtaining control of large areas of economic activity by diverse means

The concentration of economic power impedes a fair distribution of wealth and income, and thus, it tends to perpetuate the social and economic evils supposed to be associated with it. Further the persons commanding economic power are able to exert political influence and may retard the best utilisation of the nation's means of production. The contrary may be the result with the wider dispersal of wealth of a country.

Concentration of Economic Power in Ancient India

We have seen that the seṭṭhis (śreṣṭhis), satthavāhas (sārthavāhas), gāhāvais (gāthāpatis), vaṇiyās (vaṇikas), śreṇis, etc were very rich and commanded a huge wealth and income in the society. They can be compared with the big business houses of modern time, having assets running in crores of 'Hiraṇṇa-Suvaṇṇa' (gold coins). The ten gāhāvais (gāthāpatis) viz. Ānanda, Kāmadeo, Cūllanipitā and others mentioned in the Upāsakadaśāṅga Sūtram[1] possessed huge wealth and invested about one-

1. *Supra*, pp. 39-40

third of it in business. They commanded a great economic power at that time. Similarly the traders and sārthavāhas like Dhanya, Arhannaka, Mākandi, Jinapāliya (Jinapālita) were big businessmen of their time commanding huge wealth and economic power.

These business magnates were very much respected by the king and the people. They offered costly presents to the kings who were pleased to grant them various trade and other concessions. They led a life of luxury and affluence. The king took advice from them in need and as such they exerted their influence in the royal palace. They were the friend, philosopher and guide of the people. There is reference of Gāthāpathi, Ānanda from whom the king, his officials and other respectable persons took advice on different important matters. The Upāsakadaśāṅga Sūtram refers this in the following sūtra :—

> "Seṇam Āṇande gāhāvaī bahūṇam rāisara jāva satthavāhāṇam bahūsu kajjesu ya kāra iesu ya mantesu ya kuḍumbesu ya gujjhesu ya rahassesu ya nicchaesu ya vavahāresu ya āpucchaṇijje paḍipuccha ṇijje...."[1]

It means that the king, sārthavāhas and others consulted and took advice from Āanda Gāthāpati on many intricate matters and problems. All these show that the economic power rested with these seṭṭhis, merchants, vaṇiyās, etc.

However, references show that they did not use their position for only personal gains rather they took care for the good of the general people too. Some of them were great philanthropists and were guided with the ideal of social welfare. We find reference of Sārthavāhas inviting people to join their trade caravan and make profit in business. They provided all sorts of comforts and help on the way.[2] We also find reference of Saddālaputra of Polāsapura having 500 āpaṇas (work-sheds) where potters were provided with all sorts of infrastructure to manufacture earthenwares of various descriptions.[3] Such references lead us to believe that the rich traders and industrialists fully realised their social obligations and provided ample opportunities for the people to come forward and join the mainstream of country's economic development.

Hence, it can be said that the śreṣṭthis, sārthavāhas and vaṇikas enjoying a privileged position in the society and having most of the wealth of the country in their hands looked to the general interests of the people and society also. The economic power was mainly concentrated

1. *Upāsakadaśāṅga Sūtram*, Chap. I, S. 5, p. 10.
2. *Supra*, p. 64.
3. *Supra*, p. 57.

in their hands, but it seems they did not misuse it to serve their own interest only.

We have seen that the 'Śreṇis' and goldsmiths also issued coins[1] but these affluent and influential people always accepted the supremacy of the king, The king ordinarily did not interfere in the economic activities of the traders and manufacturers, but none had the power to challenge the king's authority If the king was displeased, he took strong actions against big people too and did not hesitate in putting them behind the bars.[2] The influential persons, however, managed to free themselves by pleasing the king with costly presents.[3] They also regained their name and fame in the society.[4]

The above analyses go to prove that the concentration of economic power resting in the hands of the rich and wealthy was not such as is understood today. There was monarchy. None dared to dabble in politics for the fear of being beheaded. The industrialists, traders and businessmen came forward to help their fellow countrymen by allowing them to join their trade and profession in different capacities. In fact, they were greatly respected by the people and the rulers alike. The only abuse of such a concentration which came to our notice is the costly presents made to kings to please them and derive certain advantages. It may be taken as a part of custom. Thus, concentration of wealth was bereft of the evil effects which are generally associated with it in the modern society.

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1. *Supra*, p. 94.
2. *Supra*, p. 105.
3. *Cf.*, *Jñātādharmakathāṅga Sūtram*, Vol. I, Chap. II, S. 11, p. 647.
4. *Cf.*, *Ibid.*, p. 649.

CHAPTER VII

CONCLUSIONS AND SUGGESTIONS

We have seen that the Jaina canonical literature is the outcome of the discourses given by Tīrthaṅkaras from time to time on religion and allied subjects and of the subsequent rendering of the discourses in 'Sutta' (sūtra) by their disciples called Gaṇadharas. The Jaina texts trace back the origin of the 'Āgamas' (canonical texts) to the time of the first Tīrthaṅkara, Lord Ṛsabhadeva. The extant Jaina Āgamas are primarily based on the discourses of the 24th Tīrthaṅkara, Lord Mahāvīra (599 B. C.—527 B C.). We have also seen that the credit of giving sūtra form of his discourses goes to his gaṇadharas like Gautama and Sudharmā Svāmī who were great scholars and possessed wide and distinguished knowledge.

Though the Āgamas (numbering 45) and their exegesis (i. e. Niryukti, Bhāsya, Cūrṇi, etc.) deal primarily with religion, ethics and philosophy, they also contain materials on subjects like History, Geography, Astronomy, Cosmology, Mathematics, Economics, Trade, Commerce and so on. We have studied the economic condition of ancient India as depicted in Jaina Āgamas and related texts.

Agriculture

Agriculture occupies an important place in the economy of India and we have found that it was the mainstay of a large number of people in ancient India also. The economic structure of the society as depicted in Jaina canonical literature was chiefly based on agriculture. The existence of big villages containing thousands of peasants families indicates that the agricultural operations were undertaken on an extensive scale. It has been found that cultivation was done on scientific lines and people knew the techniques of agriculture in those days. The descriptions of ploughing and of fencing the fields, sowing the seeds, pulling up the weeds, irrigating the land, etc. show a high degree of excellence in the art of growing crops. The mention of transplantation of paddy plants in Jñātādharmakathāṅga Sūtram being done twice or thrice to get a bumper yield deserves attention of the modern agro-economists who should make experiments on it. If the yield from the system of double transplantation is greater in comparison to the cost of input of labour where irrigation is assured, the system deserves to be applied to present paddy cultivation.

References show that the cultivators of ancient India were also deft in the art of preserving the foodgrains. Various systems of storing cereals and other agricultural products were followed in those days and consequently cereal seeds could be preserved for three years, of pulses for five years and that of oilseeds for seven years. This shows high degree of scientific knowledge about storing in ancient India. Some of these methods are still used in our villages and some, about which our people have no knowledge, may be reintroduced profitably. Instead of maintaining only big storehouses of foodgrains in towns, the FCI (Food Corporation of India) should study the old techniques of storage prevalent in ancient India and should maintain storehouses in villages also to avoid the problem of space, high cost and spoilage in godowns of urban areas.

It seems that the various inputs needed for agricultural production were easily available in those days as the economy was very simple. Seeds, fertilizers, implements, bullocks, labour, etc. needed for cultivation could be procured according to necessity. Different systems of irrigation were prevalent. The occurrence of famines from time to time however, indicates that the modest irrigational and other resources were not able to cope up with the severe and widespread vagaries of natural phenomena like Monsoon which seem to be common in those days.

Slavery was a common practice at that time and we find that both the male and female slaves were employed for doing all sorts of agricultural, domestic and other work. The six kinds of slaves mentioned in the texts were subjected to all sorts of tortures and were seldom made free. In exceptional circumstances, they were made free, for example, the slaves accepting 'sanyāsa' (monkhood) were generally set free by their masters. Though the institution of slavery provided a good source of manpower for various agricultural operations, the system cannot be appreciated from social point of view.

Production of a wide range of agricultural commodities in ancient India shows that agriculture was highly developed in those days. Besides cereals like wheat, rice, barley, pulses, etc., other products like sugarcane, spices, oilseeds, cotton , hemp, etc. were also grown. Hence we have ample proof to conclude that the agriculture in ancient India as depicted in Jaina canonical literature was highly developed and was carried on scientific lines.

Horticulture

Besides agriculture, we also find people taking to horticulture and producing different kinds of fruits, vegetables and flowers. Horticulture seems to be a popular pursuit of the people at that time. Different

kinds of fruits were grown in orchards and were used fresh or were dried and preserved. We also find mention of delicious drinks, syrups etc. prepared from the juice of mangoes, grapes, oranges, pomegranates, etc. which shows the taste of the people and their skill in making various drinks which could last for a long time.

People knew the uses of various kinds of vegetables and these were extensively grown in vegetable gardens and fields. The growing of various kinds of flowers, besides showing the aesthetic sense of the people indicates that some people depended on the business of flowers as it was in great demand by the well-to-do persons in the society.

Animal-Breeding

Animals have been a great companion of men since early days and we find in Jaina texts that animal husbandry was an important occupation of the time. People realised the economic importance of the domestic animals and as such various animals including cattle were tamed and reared for various economic purposes. Cattle rearing was done for the production of milk, meat, hides and skin and for their being used as draught animals. The reference of dairy farming being done on a big scale shows that people liked nutritious food and kept cows, buffaloes, etc. for the purpose.

Fishing

The art of fishing seems to be highly developed in ancient India. This occupation was carried on a large scale by some rich persons of the time. Application of twentytwo methods for catching fishes shows the skill of the persons engaged in the trade. The twentytwo different methods mentioned in the Jaina canonical texts deserve attention of the modern pisciculturists and they should examine the possibility of introducing the methods hitherto unknown. However, Lord Mahāvīra was against any kind of injury to living beings and as such fishing is prohibited in Jaina texts.

Forestry

The significance of forests was understood in those olden days and the texts mention the usefulness of forests as the suppliers of various kinds of flora and fauna. Quite a good number of products were brought from the forests for which they assumed an economic importance. They also bestowed many geographical advantages e. g. rains, checking soil erosion, floods, etc. It is interesting to find in the texts that some rich and philanthropic persons developed forests and planted trees around lakes. The modern schemes of afforestation should take inspiration from the Jaina texts and intensify the reafforestation programme in India.

Mining

The mention of various minerals, metals and precious stones in the canonical texts shows that mining was also developed in ancient India. People were fond of costly jems and precious stones which shows their richness, artistic taste and affluence.

Industries

Besides the development of primary industries, we also find references of progress made by the various secondary industries in ancient India. According to descriptions given in the canonical texts, factories existed in those times where a number of articles were produced. The factories of ancient days were free from modern complexities. There is no mention of the use of electric or steam power, big machines, large scale agglomeration, etc. Hence there were no problems like environmental pollution, slum dwellings, industrial conflict, accidents, and so on. The production process was simple. Most of the products came out from the cottages of the workers and the artisans and as such, the production was highly decentralised. On the other hand now a days, we find growing concentration of big industries in India with many associated problems. Big factories with large use of machines today are posing unemployment problem in the country and the solution it seems, is to get guidance from the old texts and decentralise the economy as far as possible.

The development of various industries e. g. textiles, iron and steel, sugar, leather, pottery, etc. in small scale in ancient India indicates that much can be done in the modern time to develop the industries on cottage and small scale basis. It is true that some of the products of modern time require use of big and sophisticated plants and machines, but it is equally true that many of the items produced in big factories can be shifted to decentralised sector.

In Upāsakadaśāṅga Sūtram we find Saddālaputra of Polāsapura owning five hundred sheds (āpaṇas) for production of earthenwares where a large number of potters earned their livlihood by engaging themselves in the work of pot-making. The modern entrepreneurs of India should follow the example of Saddālaputra and open worksheds in rural areas also for the rural weaker section providing the necessary infrastructure for manufacturing various commodities. They should shun the anti-social idea of making huge and illegal profits at the cost of toiling half-fed millions. They must come forward with the sense of social obligation, and look to larger interest of the society. Such worksheds in the rural area, besides providing work and income to the masses, shall bring income to the enterpreneur as well. It may be organised on joint venture basis.

The reference of 72 arts in the canonical texts, which were known to the people throws a floodlight on different arts and crafts of the time. It is interesting to find that there was provision for teaching various crafts and skill in those days which helped the growth of various industries. The mention of fine varieties of cloths of cotton, silk and wool fibres indicates technical perfection in industries. The mention of various garments and their uses on different occasions depicts the affluence and high level of development in the society at that time. Production of cloths including inferior varieties catered to the needs of different sections of the society.

The mention of various kinds of iron, copper, gold, and silver products in the texts indicates the development of these industries at that time. The production of various kinds of ornaments and jewellery, cosmetics and perfumery indicates the affluence of the people. The production of drugs and chemicals tells us about the advancement made in chemical and medical sciences. Thus, on the whole, we get a clear picture that this country was fairly industrialised in those times as depicted in Jaina canonical texts.

Trade

It is quite natural that the abundant supply of various products led to large scale trading in ancient India. Merchants as a class grew up and started occupying a prominent place in the society. The Jaina texts present a vivid account of trading activities of the merchants of that time. The inland trade was carried on both by land and water routes. The traders were generally united under trade guilds which were known as 'seṇis' (Śreṇis) headed by 'seṭṭhis' (Śreṣṭhis). The formation of guilds in those days shows that the merchants possessed the idea of modern Chambers of Commerce to safeguard and promote their interest.

The texts reveal that journey for trade in ancient India was full of hardships and difficulties. Good roads did not exist everywhere. Traders at times had to pass through thick forests and isolated regions which were quite unsafe. Hence the traders generally moved in groups which was known as 'Sattha' or 'Sārtha' (caravan of merchants). The leader of the group was known as 'Satthavāha' or 'Sārthavāha' (caravan leader). He occupied a dominant position in the trading group and was a man of great initiative, foresight, courage and intelligence. He took all the possible care to make the journey safe and provide comforts to the accompanying traders. Dhaṇṇa (Dhanya) Sārthavāha of Campā is mentioned as one of them who possessed a great skill in this work. He knew how to please the king and receive tax concessions.

The function and responsibilities of Sārthavāhas leading sea-faring traders was much greater as the sea journey was more risky and hazardous. We wonder at the courage of the Sārthavāhas going out on the sea to far off countries like E. Africa and bring Zebras and precious stones from there on vessels driven by winds and man power. Their zeal and enthusiasm was in no way less then the pioneers of the Western world. It was really creditable of the Sārthavāhas to develop trade in ancient India facing all sorts of odds and bring prosperity to the country by their trading activities. They should be remembered as pioneers in the field of Indian foreign trade who brought India in the limelight of the world.

We find a good account of foreign trade in the Jaina texts which show that various types of articles were exported to and imported from different countries. It is significant to learn that the texts mention about imposition of import duties but not of export duties, which means that ancient India too, was interested in export-promotion.

The mention of different trade centres as grāma (villages), ākara (mining towns), nagara (towns), nigama (municipal corporations), droṇa mukha (nodal towns), paṭṭana (ports), etc. show a high level of development in trade—both internal and foreign. The account of big towns and cities like Rājagṛha, Campā, Pāṭaliputra, Mithilā, Vaiśālī, Vārāṇasī, Mathurā, Śūrapāraka, Bhṛgukaccha, Takṣaśilā, etc. highlight the prosperity of the country and progress achieved in the field of trade and commerce in ancient India.

Banking

From descriptions given in the canonical texts, it is interesting to find that indigenous type of banking was prevalent in ancient India. The 'śresṭhis' and 'vanikas' performed both the functions of receiving of deposits and lending of money. Money was advanced both for consumption and production purposes. Lending of money for productive purpose shows the developed state of the economy, two and a half millennium ago.

Currency

Conclusive evidences found regarding minting of gold, (suvaṇṇa), silver (rūvaga) and copper (tamma) coins (nāṇaka) in ancient India reflect the maturity of the economic system of the time. The fabrication and issuing of coins both by the State and the 'śreṇis' (guilds) of goldsmiths show the importance given to the private sector in those days.

Finance

The texts mentioning about the levy of eighteen types of taxes in villages only is quite revealing. It shows that the hub of productive

activities and income generation in those days were the villages from where the State collected a good deal of revenue. The towns (nagara) were places of 'no tax' (na+kara=nagara). The modern taxation system may have a look on it, and it may get the issue of tapping greater amount of revenue from the rural sector examined.

References about public finance of the time tell about the efficacy of the financial administration of those days. It seems that the simple economy of the time helped the administrative machinery in managing financial problems effectively and successfully. The people regarded the king as a supreme authority and hence it was easy for the State to realise money from the people according to the needs of the exchequer.

Distribution of Wealth and Income and Concentration of Economic Power

We find evidences in Jaina canonical texts which prove that there was wide disparity in the distribution of wealth and income in ancient India. One section of the society comprising kings, nobles, seṭṭhis (śreṣṭhis), gāhāvais (gāthāpatis), Satthavāha (Sārthavāhas), Vaṇiyās (vaṇikas), etc. amassed huge wealth, earned a good deal of money and lived in luxury and opulence The economic power was also concentrated in the hands of a wealthy few who exerted great influence over the Government and the people. The other section consisting of small traders. ordinary peasants, hired labour, slaves etc. had to live a hard life. But we find a redeeming feature in the economy that the rich in general were philanthropists and were guided with the sense of social obligation. The teachings of Lord Mahāvīra and his disciples had salutary effect on them and we find many Śrāvakas (pious householders) taking care of the poor and weaker section of the society.

In modern times too, we find the distribution of wealth and income in India highly uneven leaving a large segment of the population below poverty line. There is also concentration of economic power due to large scale production system. In order to check the menacing disparity of wealth and income and concentration of economic power in India, besides adopting fiscal and economic measures, steps should be taken to inculcate a sense of social obligation among the 'affluents' in India so that the 'poor' may also get opportunity to improve their lot. Teaching of general religion and moral instruction should be made compulsory in order to lay down a solid code of conduct in the minds of young persons. Religion had a great influence on economic and social life of the people in ancient India. No wonder, a strong base of religion and ethics may be able to do away with many of the current economic ills whose remedy at present, we seek in economic measures. The five great

vows (aṇuvratas) enunciated in the canonical texts—Ahiṁsā (non-violence), Satya (truth), Asteya (non-stealing), Brahmacarya (abstinence from sex) and Aparigraha (non-possession) — if accepted in principle by the people and followed in their behaviour even partly, will go a long way in improving the situation in the country. The fifth vow, i. e. 'Aparigraha (non-possession) is so powerful a measure that if accepted, it would change the approach of people towards their life and towards others. The principle lays stress on them to limit their external possession and thus, people would not hanker after money and would never try to amass huge wealth by hook or by crook. The present lust among people to get richer than others would go and it would surely help reduce the wide disparity of wealth and income and also the concentration of economic power.

There is no denying the fact that in modern time, there has been vast improvements in the field of science and technology in India leading to high production and high consumption level, but inspite of additions in material welfare, people have more of grievances and discontentment. Our lives are getting more comfortable but less satisfying; we are richer but less contented. The reason is that our society puts a premium on money, materialistic possessions and power. Besides munufacturing commodities to satisfy the needs, we are manufacturing the needs as well. All these things are adding to the mental illness and personal stresses and strains of the people. They seek the remedy in accumulating more wealth whereas according to the canonical texts, the solution lies in limiting the needs and foregoing surplus wealth. It is hightime that we take advantage of good points of both the periods—the modern technological era as well as of the ancient India as depicted in the canonical texts.

Suggestions

The study of Jaina canonical texts has been thought provoking and has thrown light on agricultural and industrial activities of the people of the time. Such a study has been revealing. Science has had its play. It would be no exaggeration if we say that the methods or systems adopted by those people were in no way less scientific than the methods followed by the people today. Some of them are discussed below which may be deemed as emulative.

1. The areas where there is assured source of irrigation, the ancient system of double transplantation of paddy be experimented for higher yield. This needs vigorous research by agricultural scientists as it throws a challenge to them. When people in ancient India could take higher yield by double or treble transplantation, there is no reason why can we not take higher yield.

2. The art of storing and preserving foodgrains in ancient India is also worth studying as it was a less costly method. If found suitable, it need be adopted by people including the Food Corporation of India.

3. The modern reafforestation programme need be re-oriented on the lines of the afforestation programme followed in the ancient period when forests were developed in a planned manner The method need be examined.

4. Large scale agglomeration of industries be avoided by decentralising the economy. The modern enterpreneurs may emulate the example of ancient 'gāthāpatis' like Saddālaputra and worksheds in rural areas for the weaker section with the necessary resources and infrastructure for the manufacture of various commodities be developed. They must come forward with a social responsibility and look to larger interest of the society.

5. In ancient India industries were established on the outskirts of towns. It kept the towns and cities free from pollution. The example need be followed to minimise health hazards.

6. Steps should be taken to inculcate a sense of social obligation among the modern 'affluents' in India. The 'voluntary socialism' based on Jaina 'Aparigraha' (principle of non-possession) need be propogated and followed by the people. The old system of running 'Dānaśālās' (charity houses) by the rich persons which was a sort of social assistance need be encouraged. Fiscal reliefs be given to those who run such houses. It is likely to lessen the evils of concentration of wealth.

7. The levy of eighteen types of taxes in villages in ancient India and on the outskirts of cities is a pointer to the fact that the taxes were imposed on productive and commercial callings The cities were relatively free from such taxes and the villages bore the brunt. The fiscal masters of today will do well if they get the issue examined by researchers.

8. Religion and ethics had a great influence on economic and social life of the people in ancient India. Examples are not wanting when Gāthāpatis renounced major portion of their wealth. The names of Ānanda, Kāmadeo, Cullanīpitā and others can be well-cited. The renunciation was made with an objective to limit their wants. Thus, there was a matrimonial alliance between religion and economics enriching the economic and social fabric of the society. Such a happy blending need be encouraged in the modern society to lessen the bane of modern industrial culture.

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SOME REFERENCES FROM CANONICAL TEXTS

Page	Footnote	Reference in Texts
13	2	Tassanaṁ Ānandassa gāhāvaiassa....cattāri vayā-dasa-go-sahassienaṁ vayeṇaṁ hotthā.
14	1	Polāsapurassa nagarassa bahiya pañca kumbhakārā-vaṇa-sayā hotthā.
14	2	Tayeṇaṁ Rāigihassa ṇayarassa adūra sāmante dāhiṇapuratthime disibhāe Sihagubā nāmaṁ cora-palli hotthā.
18	2	Tayeṇaṁ te kaudaṁbiyā te sāli navaesu, ghaḍesu, pakkhivanti, pakkhivittā, Uvalipaṅti, Uvalimpittā lañchiya muddie kareṅti....
18	4	Koṭṭha uttānaṁ, pallā uttānaṁ....
18	5	Ukko seṇam tiṇṇi saṁvacchavāiṁ....
19	1	Khettovakkamo halakuliyādihiṁ....
19	2	Ādi saddāto—hala daṁtālā gheppaṁti.
19	3	Tikkheniṁ navapajjanachiṁ asiyaehim luṇaṅti....
20	1	Kulitaṁ ṇāma....gacchati.
20	5	Gabbha kīte aṇae dubbhikhe sāvarāha ruddhe vā.
21	2	Sā sāhuvahiṇi uvaṭṭhitā 'pavvayāmitti' visajjitā.
21	3	Cattāri bhayagā paṇṇattā, taṁ jahā—divasa bhayae, jattā bhayae, uccatta bhayae, kavvāla bhayae.
21	5	Ca bāhirapesaṇa kariṅthavei.
22	1	Divasādi bhayagassavi jassa bhattī khīrādiyaṁ dijjati....
22	3	Dhaṇṇāi cauvvīsaṁ, java-gohuma-sāli-vīhi-saṭṭhiā...
23	1	Kalamasāli oyaṇeṇaṁ....
23	3	....tāṇa taṁdulesu pejjā kajjati....
23	5	Sua kaṇikāe (barley meal) vā....
24	1	Tuvarī masūra mugga māsā ....
24	2	...asaṇa pāṇa khāima sāima ....
24	6	Nannattha pañca sogandhieṇaṁ tamboleṇaṁ ava-sesam muhavāsa-vihiṁ paccakkhāmi.

25	3	Pottaya kappāsamayaṁ ....
25	4	.... ca saṇa vakke.
25	6	.... ārāmesu ya ujjāṇesu ya kāṇaṇesu ....
26	1	Polāsapure nāmaṁ nayare sahassa-aṁba-vaṇe ujjāṇe ....
26	2	Iṁdhaṇa paliāmaṁ dhūma paliāmaṁ gaṁdha paliāmaṁ vaccha paliāmaṁ, cauvihā paiāma vihi ....
26	7	Ālue, mūlae, singabere, hirilī. sirilī, sissirilī, kiṭṭhiyā, chīriyā, muggakanni, assakanni, sihaṁḍi, musaṁḍhī....
27	4	.... cattāri vayā, dasago-sāhassieṇaṁ vaeṇaṁ hotthā. (Gāthāpati Ānanda is described possessing four Vrajas—each vraja having ten thousand cattle).
28	7	Thūlaṁ urabbhaṁ iha mārīyāṇaṁ........(People used to kill fat sheep for their flesh)
29	6	Kiṁ te pāṭhiṇa timi timiṅgala aṇega jhasā....
29	7	....dahagalaṇehi ya dahamalanehi ya....
30	3	Se naṁ asoga vara,...
30	4	Ethaṇam mahaṁ ege māluyā kacchae,yāvi hottha
31	7	....cattāri vaṇasaṇde rovāvei.
32	2	Aya—tamba—tauya—sīsaga, ruppa—suvaṇṇe ya vaire ya.
32	3	Hariyāle, hingulue, maṇosilā, sāsagānjaṇa-pavāle, Abbha paḍalabbha vāluya, bāyara kāye maṇi vihāṇā. ... .
44	3	Kappai nigganthāṇe vā nigganthīna vā emaiṁ pañca vathāim dhārittae vā pariharittae vā, taṁjahā— jaṅgie, bhaṅgie, sāṇae, pottae, tirīḍa paṭṭe nāmaṁ pañcame.
44	4	....trasāḥ tada vayavaniṣpannaṁ jāṅgamikam.
44	5	Uṭṭaromesu uṭṭiyaṁ...miyāṇ lomesu miya lomiyaṁ ....kuta kiṭṭa vi romavisesā.... (p. 57) Uṇṇatti lāḍāṇaṁ gaḍḍarā bhaṇaṇati, tassa romā kaccanijjā kappāso bhaṇṇati. (p. 223) Tirida—rukkhassa vāso, tassa tantū paṭṭa sariso so trilopatto, tammi kayāni tiriḍa paṭṭaṇi. (p. 399) Bhaṁgiya atasamādi bhaṅgiya vihī, Saṇaṁ saṇamāi vāgavihi...

45	1	Pottaya kappāsa mayaṁ....
45	2	....tiriḍa rukkhā tirida paṭṭo.
46	1	....khoma dugulla paṭṭa paḍicchanne....(p. 83) Duggula sukumāla uttarijjāo (p. 169)
46	2	....pondamayā khomā....
46	4	....pamhala sukumāla gandha kāsāiyāi gāyāiṁ luhanti....
46	6	Kirīḍaya lālā mayalavisae mayalāṇi pattāni kovijjati....
47	1	Cīnāṁśuko nāma kośikā rākhyaḥ kṛmiḥ tasmād jātaṁ cīnāṁ sukaṁ....
47	2	Pāuraṇaṁ rallagādi....
48	1	Tesu bālayesu pattuṇā....
48	6	....vāsāsu kumakumādi khacitaṁ.
48	7	Suvaṇṇe dute suttaṁ rajjati, teṇajam, vutaṁ taṁ kaṇagaṁ.
48	8	Aṁtā jassa kaṇageṇa katā taṁ kaṇagayakaṁ.
49	3	Vahu vattha desa jahā Mahissare aṇṇaṁ cokhhatarayaṁ parihenti....
49	5	Vathacchide puṇa ṇavakaraṇaṁ tuṇṇamiti bhaṇṇati....
50	1	Niyaṁsaṇam jaṁ diyā rāto ya parihijjeye.
50	2	'Majjiu' ttinhato jaṁ pariheti devaghara pawesaṁ vā kareṁto taṁ majjaṁiyaṁ.
50	4	Raikulaṁ pawisanto jaṁ pariheti taṁ rāyadāriyaṁ.
51	4	....tomara cakka-gayā-parasu-musala-laṅgala....
51	5	....sui suttagaṁ ca jāṇāhi....
52	1	....taṁbiyaṁ bhandaga....
52	2	....candālagaṁ ca karagaṁ ca....
52	3	....hāraṁ pinaṁddhati, pinaddhittā addhe hāraṁ pindidhattā egāwaiṁ, muttāvaliṁ, kaṇgāvaliṁ....
53	2	....nannatha maṭṭha kannejjaehiṁ ṇām muddāe va. avasesaṁ ābharaṇa vihiṁ paccakkhāmi.
54	3	....khiraṁ ca me kaḍhiyaṁ khaṇḍa machaṇḍiya—sakkarājuyaṁ....
54	4	...phanio gulo bhannati, so duviho—chiḍḍa guḍo khaḍahaḍo ya.
54	5	....cincāde pāne.......

54	6	....rasāvano nāma majjāvaṇo.
55	4	Dullabha davvaṁ śatapāka sahassapāgādi....
55	5	Lūhittā sarseṇaṁ gosīsa candaṇeṇaṁ gāyāi anulipanti.
56	2	Yā pādārdham ācchādayati sā ardha khallakā.
56	3	Yā ca sampūrṇa pādamācchādayati sā samasta khallaka.
56	4	Yā ghutakaṁ pidadhāti sā khapusā.
61	2	Vaṇittije niccaṭithaṭā vavaharanti Vivaṇitti je viṇā āwaṇeṇa ubbhaṭṭhitaṭṭa vaṇijjaṁ kareṇti. (p. 130)
62	2	Tayaṇaṁ sā suvannagāra seṇi eyamaṭṭhaṁ tahatti paḍisuṇei....
64	2	Taṁ jo ṇaṁ devāṇuppiyā yeyesiṁ naṅdi phalānaṁ rukkhānaṁ mūlāṇi wā kanda pūpfa taya patta phala....akāle ceva jiviyāo vavarovei....
64	3	Tayaṇaṁ se Kanagaketū rāyā hattha tu ttha Dhaṇṇassa sathavāhassa taṁ mahatthaṁ jāva padicchai....Dhannaṁ satthavāham sakkārei sammānai....ussukkaṁ viyarai....
65	4	So sattho paṅca viho—bhaṅditti gaṅḍi, bahilaga uṭṭabalidwādī, bhāravahā poṭṭaliā wāhagā, udariyā ....kappaḍiā bhikkhāyarā.
66	1	Tayānaṅtaraṁ ca ṇaṁ sagaḍavihi parimāṇa karei, nannatha pañcahiṁ sagaḍa saehiṁ disāyattiehiṁ pañcahiṁ sagaḍasaehiṁ saṁvāhaṇiehiṁ, avasesaṁ savva sagaḍavihiṁ paccakkhāmi.
66	2	Patteyam purisa sahassavāhiṇīsu siviāsu duruḍhaṁ....
68	3	Tesinaṁ kappai māgahae patthae jallassa paḍigaṇittae.
68	5	Kūḍatula kūḍamāṇā tenaṇumāṇeṇa savvanti.
69	2	Rāyagihaṁ nagaraṁ siṅghā-ḍaga tiya caukka caccara caummuha mahāpaha pahesu ....
70	6	Jahā Gaṅgā, Jauṇā, Sarau, Kosiyā. Mahī....
71	7	Aha pāliyassa gharaṇi, samuddammi pasavaī, aha dārae tahiṁ jāe, samuddapalitti nāmae.
72	3	Sagaḍa sāgaḍiyaṁ joyanti, joittā Campāe nayarīe majjhaṁ majjheṇaṁ jeṇeva Gaṁbhirae poya paṭṭaṇe teṇeva uvāgacchaṅti....

72	5	.... gahiesu rāyavarsāseṇesu ....
73	2	Kaliyadīve teṇeva uvāgacchaṁti ....
73	4	....hari reṇu soṇi suttagā aiṇṇaveḍha ....
73	9	.... sajjittā tattha ṇaṁ bahūṇaṁ vīṇāṇa ya vallakīṇa ya bhāmarīṇa ya kacchabhiṇa ya bhaṁbhāṇa ya chababhāmariṇa ya vitta vīṛāṇa ya annesiṁ ca vahūnaṁ soindiya pāuggānaṁ davvāṇaṁ sagaḍi sāgaḍaṁ bharenti ....
74	1	....karittā viarae khaṇaṁti, khaṇittā gulapāṇagassa khaṇḍapāṇagassa, jāva annesiṁ ca bahuṇaṁ pāṇagāṇaṁ viare bharenti....
74	2	Nāvā vaṇiyāgāṇam ussukkaṁ viarai....
74	6	Anto jalagayam girisihara māsāyaittā....
75	1	Nāvāpoto kottimbo sālikā tappako plavo pinḍikā kaṇḍe velu tuṁbo kuṁbho dati ceti.
75	2	Kucchidhāra kannadhāra gabbijja sañjāttā ṇāvā....
77	3	....Ciṇapaṭṭa kosejja....
77	5	....siṅghali āravi pulindi pakkaṇi vahili-...pārasīhi nānā deśīhiṁ videśa vesa parimaṇḍiyāhim....
80	2	Nagara-niyama-jaṇavaya-puravara-doṇamuha-kheḍa kavvaḍa-maḍaṁba-samvāha-paṭṭaṇa.
80	4	Ayamāi agrākhalu....
81	1	Natthetthe karo nagaraṁ....
81	2	Nigamaṁ negamavaggo, vasai jahiṅ....
81	3	Kheḍaṁ puṇa hoi dhulipagaraṁ.
81	4	Kabbaḍagaṁ tu kunagaraṁ....
81	5	Doṇamukhaṁ jala-thala pahenaṁ
81	6	Jalapaṭṭaṇaṁ ca thala pattaṇaṁ ca iti paṭṭaṇaṁ bhave duvihaṁ.
82	1	Tatthaṇaṁ Rāyagihe nayare Seṇiye nāmaṁ rāyā hotthā.
86	3	Teṇaṁ kāleṇaṁ teṇaṁ samayeṇaṁ...Vāṇārasi ṇayari....
92	1	Tassa ṇaṁ Āṇandassa gāhāvaissa cattāri hiraṇṇa koḍio nihāṇa pauttāo.
92	2	Cattāri hiraṇṇa koḍio woḍḍhipauttāo.....

92	4	Ṛnaṁ adeṅto....
92	5	Mae sākkhi purato sāvitaṁ.....
92	8	....latā-kasādiehiṁ vā ghaḍitā.
93	5	Kiṁ ca je vaṇiyādayo loge ṇikkhevagaṁ ṇikkhittaṁ lobhābhibhutā awalavaṇti....
93	6	Ṇidhāṇaṁ ṇidhī ṇihitaṁ sthāpitaṁ draviṇajāta mityarthaḥ.
96	4	Pīyatti suvannaṁ jahā puvva dese dīṇāro.
96	7	'Kevadiko nāma' yathā tatraiva purva deśe ketarābhidhāno nāṇaka viśeṣaḥ.
97	4	'Dvīpaṁ nāma' Surāṣṭrāyā Dakṣinasyāṁ diśi samudramwagāhya yad vartate. (Dīva was an island situated amidst the sea at a distance of a yojana in the south of Saurastra)
97	5	Do sabharagā dīviccagā tu so Uttarāpathe ekko, Do Uttarāpahā puṇa, Pādaliputto havati ekko.
97	6	Do Dakkhiṇāvahā tu, kaṅcīe Nelao sa duguṇoya, Ego Kusumaṇagarago, teṇa pamāṇaṁ imaṁ hoti.
97	7	Rūpamayaṁ wā nāṇakaṁ bhavati, yathā bhillamāle drammaḥ,
98	5	Tamramayam vā nāṇakaṁ yad vyavahriyate, yathā Dakṣinapathe Kākiṇi....
98	7	Jahā Bhillamāle cammalāto,
98	10	....ayanti kūda kāhāvaṇe vā.
99	2	Koso jahiṁ rayaṇādiyaṁ davvaṁ....
99	3	Koṭṭhāgāro jattha sālimāe dhaṇṇaṁ,
101	1	Gammo gamaṇijjo vā, karāṇa gasae va buddhādī
101	2	Natthettha karo nagaraṁ....
102	3	Suṇkaṭhāṇe suṅkio uvaṭṭhito....
103	4	Se Dhaṇṇe Sathavāhe.. mittanāi niyaga sayaṇa sambandhi pariyaṇeṇaṁ svakena attha sārenaṁ āya kajjāo appāṇaṁ moyāvei.
104	1	Yete ruvaggakaraṁ maggijjanti.
104	7	Rāyagihe nagare ambhitara vahirie ussukaṁ ukkaraṁ abhaḍappavesaṁ....
105	1	Nāvāvaṇiyagae viulenaṁ vattha gandha jāva ussukaṁ viarayi....

105	2	Nāvā vaṇiyagāhaṁ usukkaṁ viarayi....
106	2	Hayaṇie gayāṇie, rahāṇie taheva ya, pāyattāṇie mahayā, savvao parivārie.
109	2	Rāyaṇaṁ jo rakkhati so rāyārakkhiyo-śirorakṣaḥ....
110	1	Āṇandassa gāhāvaissa bahue mittanāi—ṇiyaga—sayaṇa—saṁbandhi—parijane parivasai, aḍḍhe jāva aparibhue.
111	3	Dāna śila tapo bhāvanā....dāṇādi catuṣprakāra ityarthaḥ.
114	3	Tayaṇaṁ se Dhaṇṇe satthavāhe annayā kayāiṁ mittanāi niyaga sayaṇa sambandhi pariyaneṇaṁ sayaṇa ya attha sāreṇaṁ rāyakajjāo appāṇaṁ moyāvei.
114	4	Tayaṇam taṁ Dhaṇṇaṁ satthavāhaṁ ejjamāṇaṁ pāsittā Rāyagihe nayare bahave niyaga seṭṭhi satthavāha pabhiyao ādhanti parijāṇanti sakkārenti sammāṇenti abbhuṭṭhenti.

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